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This study investigated methods of assessing the effects of cultural deprivation in relation to school adjustment. The investigators developed new methods of assessment in areas of self-concept, (sample of 49 children) concept formation, (314 children) and value orientation, (45 children) The Peabody Picture Vocabulary Test (sample of 60 children) and the Lee-Clark Reading Readiness Test (50 Head Start children) were also administered. The following conclusions were reached: (1) Differences in self-concept were detected when pictorial representations were used. (2) Pictorial representations of verbal concepts provided meaningful assessments of essential concepts without relying on reading ability. (3) The presentation of value distinctions by overhead projector resulted in different patterns of response by contrasted groups of children. (4) Peabody Picture Vocabulary Test scores were significantly different for middle class children than for lower class children. (5) Responses on the Lee-Clark Reading Readiness Test indicated difficulty for underprivileged children to recognize and categorize symbols. These abilities were improved through Head Start experiences. It is recommended that additional trial forms of the pictorial instruments be devised, and that all of the instruments be used on different groups of children. Longitudinal studies should follow. (DR)

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THE UNIVERSITY OF NEW MEXICO
College of Education
Department of Educational Foundations

Final Report
For
"Investigation of Methods to Assess the Effects of Cultural Deprivation."

By
Wayne P. Moellenberg

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CHAPTER 1

Introduction

The educational disadvantages suffered by children from deprived socio-economic environments have been a source of concern to educators for some time. Children who come to school without the background necessary to profit from school experiences encounter repeated frustrations as they attempt to adapt to the new and strange environment. The result of such frustrations, in all too many cases, is that they reject the entire school situation, along with the values it represents, and seek satisfaction in other pursuits, some of which are often detrimental to themselves and to the community. To make matters even worse, they become the parents of children who will experience similar frustrations and lack of need-satisfaction in their encounters with the middle-class-oriented school, thus establishing a cycle of failure and rejection.

Concern over this state of affairs has been heightened and focused by federal actions designed to aid the culturally-deprived child in his adjustment to school. In particular, Project Headstart was designed to perform this function for the kindergarten-age child through programs intended to supplement his experiential background in areas necessary for school success.

A real problem arose in connection with these efforts when it was found that objective criteria for determining the degree and type of deprivation had not been developed. For want of a better measure, level of family income has been used as a prime criterion in the selection of children for the first Headstart programs. However, the inadequacy of such a criterion has been clearly pointed out by Havighurst (1964, p. 214) and others, who have correctly noted that this particular variable is only one of many which are related to the problem. Other variables which may have as much or more pertinence to the problem of identifying children in need of supplementary experience to prepare them for school are such matters as self-concepts (Ornstein, 1966), attitudes and values, knowledge and understanding of relationships, and familiarity with objects or names of objects encountered in typical school experience. At the present time, however, there is a considerable uncertainty about the precise relationship between many of these variables and school success because of the lack of instruments and procedures for their assessment, particularly at the kindergarten level. The principle purpose of this project was to derive and make preliminary trials of some procedures by which the assessment of variables such as those listed above might be accomplished at the kindergarten level.

Statement of the Problem

The general problem of this study was to investigate methods of assessing the effects of cultural deprivation and their possible relationship to childrens' difficulty in adjusting to a school situation. More specifically, new methods of assessment in the areas of self concept, concept formation, and value orientation were derived and submitted to the preliminary trial. In addition, existing instruments in the areas of vocabulary (Peabody Picture Vocabulary Test) and reading readiness (Lee-Clark Reading Readiness Test) were investigated to determine their suitability as predictors of first-grade success on the part of culturally-deprived children. Since this study was in the nature of a pilot project, no hypotheses were formulated beyond the general hypothesis that instruments could be found or developed that would show significant differences among children on variables which are deemed relevant to school success. This general hypothesis provided a basis for the preliminary testing of the trial instruments as a first step in the process of refinement.

Definitions of Terms

The following definitions are intended to clarify the meanings of terms which might otherwise be misinterpreted by the reader:

1. Culturally deprived. --This term is used rather than "culturally different" because of the fact that children

coming from other cultural contexts are often handicapped in adjustment to the school. The use of the term is not meant to imply the superiority of one culture over another in any sense except preparation for school as it is presently structured.

2. School success.--The degree of facility with which the child adjusts to the requirements and routines of first grade. More specifically, the ratings of the child's behavior and achievement in first grade.

CHAPTER II

Review of the literature

Since the inclusion of the total reviews of literature contained in the original reports would result in an extremely long paper, the following review will include only those articles which are directly pertinent to the essential aspects of the problem. The articles pertaining to different theoretical aspects of the methods of measurement used, as well as those dealing with the more traditional aspects of the problems encountered in measurement, are not included.

Articles Pertaining to Self Concept in Relation to Deprivation and School Achievement

It was mentioned earlier that there are many cultural factors which have been theoretically identified as related to achievement, and many of these form the basis of existing government programs. There are two broad classifications of factors which have been mentioned most frequently; those related to personal pupil traits and those related to family socio-economic situations. Havighurst (1964, p. 214) points out the difficulty of using the second group when he states that one must, "avoid giving the impression that there is a hard and fast relationship between socio-economic status, or some other group characteristic, and social disadvantage for the child." He further emphasizes this point when he states that,

> Any educational policy aimed at identifying socially disadvantaged children should avoid reliance upon general socio-economic characteristics as the desired criterion.

It seems, then, that the best approach would be to look at characteristics of individual pupils and attempt to use these as criteria. Ornstein (1966) has a list of these characteristics in which general self-deprecation, in the form of lack of self esteem, lack of self praise, and lack of self importance, occur as traits of the disadvantaged. Krugman (1961, p. 23) also indicates the same trait when he states that "the children we were trying to help have characteristically low self concepts which in turn adversely influence school achievement and the level of school reached." The interesting thing about his comment is the use of the word "characteristically" and the indicated link between self concept and achievement. Poor esteem of self is also listed by Reissman (1962) as a conventional reason for lack of school success. Fedman (1964) reported that in the Institute for Developmental Studies under the direction of Dr. Martin Deutsch the development of a positive self-image for the child was deemed crucial in orienting him toward learning. Bloom, Davis, and Hess

(1965) came to the conclusion, after examining the available evidence on personality development in deprived children, that the ego development of the deprived child is characterized by a lack of self-confidence and a negative self-image.

The material available seems to suggest that leaders in the field of education for the culturally deprived do feel that an important characteristic of these children is a negative self-concept. The implications for this project are that self-concept is a relevant factor to study for information and identification purposes. The next thing that needs to be done is to look at the theoretical basis of self-concept itself and see if there are consistent reasons for the beliefs of the educators mentioned above.

One of the first questions to be examined is whether or not it is reasonable to expect an accurate estimate of self-concept by asking individuals to indicate their feelings on some instrument. This question should be asked for each instrument but, unfortunately, it is rarely done. The whole matter of test validity is a weakness of almost all of the reports which were examined and which will be summarized in the next section. It is reassuring to find that one study (Brandt, 1958) did attempt to evaluate the question of self-concept test validity and the author found a close relationship between a particular form of a consciously-indicated self image and a projectively-indicated self image. He also found some differences (acceptance and sex difference) in accuracy, and it is interesting to note the number of other studies which found sex differences in some form. It must be assumed for the remaining studies that the authors had some indications of test validity, or at least that the theoretical considerations mentioned earlier will lend some assurance of validity to the individual instruments involved.

Cowen, Heilizer and Axelrod (1955) investigated the question of the relationship between self-concept and the learning process in general. They found that subjects had more difficulty learning symbols associated with conflicts in their self-concepts. Others investigated the relation of self-concept to achievement in school situations. At the college level Roth (1959), Stevens (1956), and Stone and Foster (1964) found that there was a significant relationship between self-concept and achievement.

Combs (1964) found that at the high school level there was a significant difference between achievers and under-achievers with respect to self-concept, with under-achievers having a lower mean score.

Most of the studies reviewed were conducted at the junior high level. Brookover, Paterson, and Thomas (1962) found a significant positive relationship between self-concept and achievement. Using a Q-sort technique, Perkins (1958) was the only one reporting no significant relation. Reeder (1955) and Davidson and Long (1960) found a significant relationship, and the second study also indicated a significant relationship between pupils' self-concepts and the views of themselves which the students perceived from their teachers. Coopersmith (1959) found in a study of 5B and 6A grade children that a correlation as high as .36 could be found between a positive self-concept and school achievement.

Correlates of self-concept other than achievement were also reported. Groh (1956) found a significant relationship between sex identification and self-concept integration. Both Silverman (1963) and Wylie (1963) found a relationship between self-concept and socio-economic level.

The sex difference mentioned earlier showed up in many studies. A tendency for boys to show higher mean self-concepts was noted by Brandt (1958), Wylie (1963), Capretta, Jones and Siegal (1963), and Silverman (1963). The opposite tendency was reported by Brookover, Paterson and Thomas (1962), Perkins (1958) and Davidson and Long (1960).

Studies of self-concept and achievement at the first grade or kindergarten level are almost non-existent. There was only one reported in the extensive review conducted by the Committee for Compensatory Education for Cultural Deprivation. Larson and Olson (1963) used four measures of self-concept: The Impossible Question measure, The Sex and Race Self Measure, The House-Tree-Person test, and a teacher questionnaire. The results indicated a relationship between these measures and achievement at the kindergarten level.

The literature indicates a definite and consistent relationship between self-concept and achievement at levels above the first grade and, under the assumption that the relation is indeed consistent, there seems to be ample support for the present study. Also, the lack of work at the first grade level emphasizes the importance of the present study. Some relevant variables which might need to be controlled such as sex difference, sex identification, and socio-economic level, were discovered in the review.

Articles on Concept Formation and Attainment

To construct a test to measure concept attainment, one must know what "concept" implies. Staufeer (1965) defines concepts as "cognitive structures which each child must develop in the course of intellectual functioning. Concepts are a unifying and an integrative force which provide an intellectual capacity for handling a wide variety of overt and covert experiences." Vincake

(1953-54) defines concepts as being "cognitive organizing systems which serve to bring pertinent features of past experiences to bear upon a present stimulus-object." Properties of concepts are: point of reference with respect to all other concepts; accuracy--a ball for a ball, not an orange; they always combine the objective properties of the object and the subjective impressions of the individual.

Words are not concepts. Vincake (1954-55) says, "Words are merely the names of concept systems. They either evoke concepts or are responses following conceptual processes." Carroll (1964) described a word as a cultural artifact that takes the same, or nearly the same, form throughout a speech community. It is a standardized product on which the speech community exercises a considerable degree of control. Not so with concepts, which may vary to some extent with the individual, depending on his experiences with the referents of the words. However, the connection between a word and the concept must work in either direction. That is, the word must evoke the concept and the concept must evoke the word.

Since there is a close relationship between words and concepts, concept attainment is an important factor in learning to read. Freyberg (1966) conducted a study which he believes suggested that school performance is associated with aspects of conceptual development not adequately assessed by conventional intelligence tests. Serra (1952-53) referred to another study conducted by Marcum which revealed that materials for beginning reading instruction is loaded with concepts. In fifteen preprimers, 110 different concepts were used. There were from ten to fifty-five different concepts per preprimer. She found 406 different concepts in fifteen primers with forty-eight to 101 different concepts per primer.

With a knowledge of so many concepts being used in preprimers and primers it is not difficult to understand that "often the task for the teacher is not merely to explain a new word in familiar terms, but to shape an entirely new concept in the mind of the student," as suggested by Carroll (op.cit.)

Carroll (op. cit.) comments, "One would have thought that volumes would have been written on the subject, but apart from such brief treatments as those of Brownell and Hendrickson, Serra, Levit, and Vincake, for example, one searches the literature in vain for any comprehensive treatment of concept teaching. One is reassured that there are gaps to be filled."

Studies Pertaining to the Importance of Values and Their Measurement

The definition of culture as a way of life has been generally accepted. It has been recognized that each subcultural group in the United States has its own peculiar value system which differs markedly from that of the dominant middle-class American culture. The general public is, however, unappreciative of the effect of value orientations on the lives and personalities of those who hold them. The public in general does not recognize that culture determines how an individual perceives himself and others. It involves the totality of living, from the biological to the social and intellectual (Elam, 1960).

Anthropologists "....see that no way of life is a meaningless and goalless jumble of odd behaviors . . . each culture selects certain conditions of living, certain objects of possession, certain conditions of personality as more desirable than others. And these desirables are seen as motivating people to behave in acceptable and worthwhile ways as underlying complex and highly specific manners and customs." (Spindler, 1963, p. 20)

Education in the United States is an enculturation and acculturation process. Its purpose is to inculcate in each new generation certain knowledge, skills, and attitudes. The society has learned that this cannot be left to chance. But, as Kneller

(1965) has noted, the typical American school is imbued with middle-class values. Thus, the educative or acculturation process for those deviating from the American middle-class culture has become a process of changing from one culture to another.

Elam (op.cit.) has pointed out that acculturation is a problem of accomodation to a whole new set of patterns and being. She implies that this accomodation will not be an easy task.

> Culture is primarily a learning which is begun at birth and which provides the base for living. It permeates all behavior, from the simple fundamentals of eating and dressing and talking to the more complex and involved patterns of communication, use of symbols, and the development of a value system (p. 258).

It has become necessary for the deviant subcultural groups in our society to acculturate. It is recognized that the American way of education is based on a middle-class value structure. In order to benefit to the optimal degree from the opportunities offered in America, the game must be played by middle-class rules (Zintz, 1960). An individual is culturally disadvantaged to the degree that his value orientation is removed from the middle-class system.

Researchers have made several attempts to assess personal values. Scott (1959) investigated the values held by adults and two differing groups of college students. In his work he stated that:

> ...characteristics of cultural ideology tend to highlight presumed modal patterns while de-emphasizing the diversities which surround them. Certain diversities are treated by Kluckhohn, who points out that heterogeneous cultures are characterized by variant, as well as dominant, value orientations. (pp. 299-300)

One of the best-known bodies of research literature on the matter of values grew out of the work of Allport and Vernon (1931), who attempted to assess the relative prominence of six different values in a given personality. This research suggested that vocational, racial, and sectional groups might be found to possess distinctive value profiles, but made no attempt at cross-cultural assessment.

Carter (1956) developed a procedure by which to measure the relative importance and/or acceptability of certain value concepts to three groups of subjects: 42 Indian Nationals, 79 Filipinos, and 60 upper-division Stanford University students. This was an attempt at a cross-cultural study, but had the distinct disadvantage of being "...workable only with a literate group of subjects with some background of exposure to and interest in social, political, and economic issues." (p. 163)

Muncie (1966) attempted a cross-cultural study which sought differential value concepts of Anglo and Navajo junior and senior high school students. This study holds considerable promise in that definite differences were found between the two groups with respect to certain personal values held. The value concepts which elicited wide differentiation could be characterized as modal values and are important for further study.

The attempt to develop a continuum was made by Spindler (1963), who attempts to place individuals in relation to one another on the basis of their responses to an open-ended questionnaire. He also reported success in being able to identify four levels of acculturation for the Menomini Indians of Wisconsin. He was able to categorize members of the tribe by the values they manifested with a high degree of accuracy. This study was very similar to that made by Ulibarri (1958) with the Spanish-speaking subculture. He was able to identify five definite levels of acculturation, ranging from traditional values to full acculturation to middle-class values.

Research devoted to ascertaining values held by very young children appears to be rare, even though it is recognized that the pre-school years and the elementary school years are extremely important in the formation of value systems. Mukerji (1965) illustrated the effect of culture on a child's creativity. She quotes E. Paul Torrance:

> From the best research evidence available and the observation of many investigators, creative imagination during childhood seems to reach a peak between 4 and 4½ and is followed by a drop about 5 when the child enters school for the first time. . . . There are now indications, however,

> that this drop in 5-year-olds is manmade (or culture made) rather than a natural phenomenon. (Brackets are Mukerji's))p. 30)

One study was located which attempted to assess the personal values of very young children. Lehman (1959) tested 160 Canadian children with the Children's Apperception Test. One of his purposes was to determine if there were any statistically significant differences among four socio-economically divided groups with respect to values held. Only one significant difference was found. Children from the high group exhibited more fear than those from the low-broken group in terms of frequency of response.

Literature Relating to General Characteristics of Cultural Deprivation

In addition to the matters already reviewed, there are many other theories in the literature concerning aspects of cultural deprivation which might be used in the identification of children in need of help. These writings were reviewed to determine what kinds of existing instruments might be most profitably investigated for possible application to the problem.

Frank Riessman (1961) points out that;

> In the classroom the culturally deprived child is recognizable by the facts that he works slower on academic problems, needs more examples presented him to learn abstract concepts. He is un-

> willing to jump to conclusions, he reads slower, solves problems slower, is slower in getting down to work and is slower in taking tests.

Others, Barbe (1965) and Glatt (1965), held the opinion that the culturally deprived child can be recognized in the classroom by the fact that this child will have a hard time learning the more abstract concepts and will have a hard time using an acceptable form of language although he may be of average intellectual potential. These two researchers also point out that this child is capable of learning just as much just as quickly as the child who is not considered culturally deprived. Groff (1964) indicates that one may identify the culturally deprived child in the classroom by looking at;

> His poverty, his great respect for physical prowess, his lack of response to academic problems and challenges, his insecurity and fear of failure and his ambivalent feelings toward education in spite of his generally negative feelings toward it.

Thus it seems that general agreement has been reached in the area of identifying the culturally deprived child in the classroom. The emphasis in this area seems to be on the factors of this child's slowness to respond to academic problems and his slowness to learn the more abstract concepts presented to him in the classroom, which would seem to point to a lack of readiness that the child brings with him into the modern classroom. This readiness, or lack of it, involves the ability to produce what the middle-class classroom demands. The lack of readiness will have an effect on the child's achievement. Havighurst and Neugarten (1959) observed that:

> The higher socio-economic class parents teach more in the form of reading, counting, etc. during the pre-school years than do the lower class parents. Therefore, the children of the former are more ready to enter school than are the children of the latter group.

Other literature on the identification of the culturally deprived child outside of the classroom also stresses this lack of readiness and places the blame for it on the socio-economic status and the homes from which these children come. Havighurst (1965) points out that most of these children are from the lower social and economic strata in society and are continually being discriminated against by the members of the higher classes. Charles Glatt (1965) also states that these children come from the lower classes.

> The culturally deprived child usually comes from the lower economic groups and from an area of very poor housing. He is effected by the attitudes and values of the group from which he comes. He has a great deal of free time but has little way or knowledge of how to use it wisely.

Others, Kaplan (1963) and Bloom (1960), hold the view that the culturally deprived do indeed come from the lower classes and are notably deficient in cultural and academic strengths. The latter usually is a consequence of the former, but not always. Strang and Congreve (1965) support this view but differ on one point. Their study stressed the fact that not all of the culturally deprived are from the lower classes in society.

> There are children from the middle and upper classes who are just as deprived as those from the lower classes. These are the children from broken homes, apathetic homes, and homes where no parental guidance is given.

Though there seems to be general agreement about how to identify the culturally deprived child in and out of the classroom, there seems to be little evidence of how the attitudes and values of these children effect their achievement in the schools. The literature also indicates that for a closer look at the culturally deprived investigations might be made in the depressed areas of urban centers.

The lack of readiness found in the culturally deprived children may be due to many forces. The most important of these is the home environment from which the child comes before entering a public school. Of all the aspects of the environment, the home produces the first, most pervasive, and perhaps the most subtle influence on the child. The vital role of the home environment as one of the most powerful determinants of variables in the educational progress among children has been recognized by educators, sociologists and psychologists. Crow and Crow (1962) emphasize this point.

> The kind of home that a child receives his early training in will determine, to a great

> extent what kind of person he will become and how ready he will be to enter the modern school.

Dewey (1959) and Hebb (1961) hold the opinion that learning is dependent on the experiences as interaction between the organism and its environment, and that the early experiences may improve its basic learning abilities substantially. Havighurst (1965) describes the home environment of the culturally deprived child as one that:

> Lacks a family environment that sets an example of reading and does not provide a variety of play materials, toys, etc. of many kinds. The home also lacks conversational experiences which encourage him to ask questions and extend his vocabulary.

Kaplan (1963) points to the fact that the home environment, especially that part played by the parents, is very important in the acculturation process of the child. He also remarks that the parents of the culturally deprived child, usually, do not provide the experiences necessary for acculturation.

> The parents of these children have simply been unable to provide the quality of outlook, initial grounding, and readiness for formal learning that middle and upper class parents provide as a matter of course. This proves to be a decided handicap and leads to underachievement when the child enters school.

Bloom, Davis, and Hess (1965) have shown through their research that the early home environment of the culturally deprived child produces certain deficiencies in the perceptual skills. It was clear that the children from middle and upper class homes receive more diverse visual, auditory, and speech experiences. Deutsch (1963) holds the view that lower class children enter school so poorly equipped to produce what school demands that initial failures are almost inevitable. He contends that there are two main forces affecting a childs lack of readiness; a lack of variety of visual auditory and tactual stimuli in the home, and a lack of expectation of reward from parents for performance.

These forces from the home environment effect the achievement motivation of children and therefore effect their achievement. McClelland (1953), Kahl (1953) and Coleman (1957) have studied the achievement motivation of children and have come to the agreement that the influences of the home environment do effect the motivation and therefore the achievement of the child in school. Dave (1963), in a study of home environment and achievement, found that the variables of language models used in the home, interest of the parents in the child's achievement, and the interaction between the parents and the child correlated very highly with achievement. He also found that children coming from homes which were lacking in these variables were decided underachievers. He pointed out that these children should be classified as culturally deprived.

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Sophie Bloom (1960), in a study of the school achievement of culturally deprived children in the Chicago area, showed that achievement was effected by three variables.

> The achievement of the children in the sample was effected by the language models used in the home, the amount of interaction among the parents and the child, and the intellectual interests in the home. The lower the quality of these three the lower the achievement of the child.

Dave (op.cit.) points out that educational achievement is dependent on the nature and kinds of experiences received by the child and the awareness of the parents regarding the educational achievements of the child. Stendler (1950) studied the attitudes of parents of grade one children and found that variation in achievement among the children was related to such factors as:

> Parental aspirations for the child, preparation for school provided by the parents, the quality of language used by the parents and their keeness for correct usage and the availibility of guidance on matters relating to school work.

Another variable in the acculturation and achievement of a child is the nature, amount and quality of the variety of experiences the child can receive from the home and parents. These experiences drawn from the activities of the family are especially useful in exposing the child to a variety of external stimuli which may result in the expansion of the child's general world. Baldwin, Kalhorn and Breese (1945) studied patterns of parental behavior and found that:

> The activeness of the home, its awareness and alertness, and the contact between the child and the parents were some of the specific aspects of parent behavior that are found to be vital in the intellectual, educational and personality development of the child.

Bruner (1956), Milner (1951) and Burnstien (1960) have shown that there is a great significance in the interaction between the parents and the child, especially when the parents read to the child.

> The reading readiness and the language facilities of the child when he enters school can be traced to the home and the interaction between the parents and the child in these two areas. If the child has had the proper amount of this type of interaction with his parents he will achieve higher than the child who has not had the proper amount.

Dave (1963) points out that the home environment plays a very important role in the educational achievement of a child both in the development of his verbal facilities and in the socialization process. The quality of the language models available to him in the home during the early stages of his development are very important in his achievement later in the school situation. The higher the quality, the higher the achievement.

CHAPTER III

METHODS AND PROCEDURES

Basic Theory of the Self-Concept Instrument

The concepts used in this aspect of the study were adapted from a study by Davidson and Long (1960), who had used the concepts in verbal form with older subjects. These verbal concepts were adapted to a set of 25 pairs of pictures in order to make the test applicable to young children lacking the ability to read. Each pair of pictures represented opposite extremes of a given aspect of self-concept, and were put on an individual page of a small booklet so that a child would devote his undivided attention to the given pair of pictures until he was told to turn to the next pair. Students were requested to mark the pictures they chose in each set in accordance with the general instructions of the test. Preliminary trials revealed the need for simple explanations of the situations represented in each pair of pictures, so a list of brief explanations was devised to be read by the examiner as the students went through the booklet. (Instructions for the administration of the test and copies of those pairs of pictures found to yield significant differences are contained in appendix A.)

In the attempt to assure unbiased responses, certain precautions were taken in the construction and administration of the test to reduce the influence of extraneous variables. These precautions are briefly summarized below.

1. The socially desirable and undesirable pictures were assigned a right or left position within each set in a random fashion.
2. The sets were arranged in the booklet in a random manner.
3. There was only one set per page in the booklet so that the students would not be confused with the previous or following sets.
4. The explanations accompanying each set were written in as neutral a fashion as possible so that the biases of the administrator would be minimized. Also, the fact that they were written contributed to the uniformity of test situations.
5. The autonomous nature of the instrument responses was stressed to the pupils.

The sample of children with which this first preliminary form of the instrument was tried consisted of a first-grade class in a low socio-economic area of the valley section of Albuquerque and another first-grade class in a middle-class heights neighborhood. These classes contained a total of 30 boys and 19 girls.

The test was administered in the regular classrooms after the children had been in school long enough to feel reasonably secure in their regular routines. Children were directed through the entire booklet twice, with instructions on the first administration to mark the picture in each pair which was most like them (actual self) and on the second administration to mark the picture which was the best way to be (ideal self). Strict adherence to the directions and careful control of testing conditions were maintained, so there is reason to believe that the influence of extraneous variables was held to a minimum.

Results obtained with the Self-concept Instrument

It was found that significant differences existed among certain groups of children in their responses to the self-concept instrument. Among those differences was the one presented in Table 1 below.

TABLE 1

TOTAL NUMBER OF DESIRABLE ACTUAL SELF CHOICES GROUPED BY SEX

	0 - 18	19 - 21	22 - 25
MALE	9 (11)	7 (9.2)	*14 (9.8)
FEMALE	9 (6.9)	8 (5.8)	* 2 (6.2)

(expected value) * = largest contributed values of chi.

Chi square = 6.95

Significant at the 5% level.

The table indicates a significant sex difference with respect to the number of times pupils chose desirable actual-self pictures. Boys in this sample had a greater tendency than girls to choose the more favorable of each pair of pictures as representing their actual selves.

A second difference that was found in the results obtained with the entire instrument concerned the ideal-self concept and a comparison of valley and heights children, as shown by Table 2.

TABLE 2

TOTAL NUMBER OF DESIRABLE IDEAL CHOICES GROUPED BY SCHOOL

	0 -18	19 -21	22 - 25
Heights School	* 4 (8.3)	8 (7.8)	13 (8.9)
Valley School	*12 (7.7)	7 (7.2)	4 (8.1)

(expected value) * = largest contributed values of chi.

Chi square = 8.76

Significant at the 5% level

This table indicates that there was a significant difference between students from the heights school and those from the valley school in terms of their ideal-self concepts, with the children from the heights having the more desirable (from the standpoint of adaptation to school) ideal-self concepts.

These differences in response to the instrument as a whole indicated that the idea of pictorial representation of aspects of the self concept might be applicable at the first grade level. Consequently, a careful analysis of the individual items was undertaken to discover which items were discriminating. This analysis revealed that ten of the twenty-five pairs of pictures yielded so few responses to one member of the pair that they provided little or no discrimination. Of the remaining fifteen pairs, seven were found to yield significant differences between contrasted groups of children. Four of these indicated sex differences while three indicated differences between children from the two schools. (It should be acknowledged at this point that sex differences were not a matter of ultimate concern in this study. However, the procedural matter of developing ways of detecting differences in self-concept was a prime concern, so consistent differences between boys and girls in their responses to the items were considered important evidence regarding the validity of the procedure. If the method proved applicable, then the specific content of the items could be developed to yield the desired discriminations.)

Tables 3 through 10 present evidence regarding the seven items which were found to yield significant differences between groups.

TABLE 3

NUMBER OF CHOICES FOR QUESTION 1

BY SEX

	Not Desirable	Desirable
MALE	7 (12.2)	23 (17.8)
FEMALE	*13 (7.8)	*6 (11.2)

(expected value) * = largest contributed values of chi.

Chi square = 9.79

Significant at the 1% level

The table indicates a sex difference with respect to set 1, which consists of a careless-careful situation at a street corner. The results indicate that girls tend to see themselves in a negative fashion with respect to this situation.

TABLE 4

NUMBER OF CHOICES FOR QUESTION 5

BY SEX

	Not Desirable	Desirable
MALE	* 4 (7.9)	26 (22)
FEMALE	* 9 (5.0)	10 (13.9)

(expected value) * = largest contributed values of chi.

Chi square = 6.91

Significant at the 1% level

Here, although both boys and girls tend to regard the situation in the same fashion, fewer boys and more girls than expected chose the awkward as opposed to the graceful situation indicated.

TABLE 5

NUMBER OF CHOICES FOR QUESTION 16

BY SEX

	Desirable	Undesirable
MALE	21 (17.8)	9 (12.2)
FEMALE	*8 (11.2)	*11 (7.8)

(expected value) * = largest contributed values of chi

Chi Square = 5.13

Significant at the 5% level

Here, once again, the girls tended to have a more negative attitude with respect to the situation of this question.

TABLE 6

NUMBER OF CHOICES FOR QUESTION 25

BY SEX

	Undesirable	Desirable
MALE	* 2 (4.9)	28 (25.1)
FEMALE	* 6 (3.1)	13 (15.9)

(expected value) * = largest contributed value of chi.

Chi square = 5.28

Significant at the 5% level

This final question again illustrates the general trend with respect to actual self-concept which was noted from the first table in respect to the sex difference. It is interesting to notice that of the four situations in which girls showed negative responses, two are generally considered to be more masculine traits but the other two are not. Thus, it appears that the negative self-concept indicated by the girls in this study was not the result of the general unacceptability of a pictured situation but was actually an indicated choice.

TABLE 7

NUMBER OF CHOICES FOR QUESTION 11

BY SCHOOL

	Desirable	Undesirable
Heights School	* 4 (6.6)	21 (18.4)
Valley School	* 9 (6.4)	15 (17.6)

(expected value) * = largest contributed values of chi.

Chi square = 2.9

Significant at the 10% level

In this situation, grateful-ungrateful, it appears that the valley school tended to be a bit more positive than the heights school, but both tended to regard the negative side as a more accurate description of their actual self image.

TABLE 8

NUMBER OF CHOICES FOR QUESTION 16

BY SCHOOL

	Desirable	Undesirable
Heights School	19 (14.8)	* 6 (10.2)
Valley School	10 (14.2)	*14 (9.8)

(expected value) * = largest contributed value of chi.

Chi square = 5.97

Significant at the 5% level

This was the only question on which there was both a sex and a school difference. However, due to the distribution of boys and girls in the two schools, it is doubtful that the difference noted here is merely the sex difference reported earlier. The valley school seems to indicate a more negative attitude toward themselves with respect to this situation than the students of the heights school.

TABLE 9

NUMBER OF CHOICES FOR QUESTION 19

BY SCHOOL

	Desirable	Undesirable
Heights School	23 (18.9)	* 2 (6.1)
Valley School	14 (18.1)	* 10 (5.9)

(expected value) * = largest contributed values of chi.

Chi square = 7.5

Significant at the 1% level

Once again the students of the valley school seem to indicate a negative actual self-concept.

TABLE 10

NUMBER OF CHOICES FOR QUESTION 21

BY SCHOOL

	Desirable	Undesirable
Heights School	* 3 (6)	21 (18)
Valley School	* 9 (6)	15 (18)

(expected value) * = largest contributed values of chi.

Chi square = 4.0

Significant at the 5% level

In this last question it appears that the students of the heights school have more negative views of themselves than do those of the valley school. The two schools are evenly divided on the four questions indicated by the table with one school showing more positive attitudes on two items and other school doing the same for the remaining items. As far as the concepts involved in the situations are concerned, the students from the valley school seemed to see themselves as childish or immature and cowardly, while the heights students viewed themselves as not curious and ungrateful.

A summary of the findings obtained with the self-concept instrument would include the following points:

1. There was a significant difference between boys and girls in their reaction to the instrument as a whole.

2. There was a significant difference between valley children and heights children in their reaction to the instrument as a whole.

3. There were significant differences between boys and girls in their reactions to four individual items on the instrument.

4. There were significant differences between valley and heights children in their reactions to three individual items of the instrument.

CHAPTER FOUR

The Measurement of Concept Attainment

A second area in which the problem of determining possible effects of cultural deprivation was attacked was that of concept attainment. The concepts used in this aspect of the study were chosen as a result of a careful analysis of widely-used first readers, primers, and pre-primers. Since a child cannot experience success in school without being successful in the attempt to learn reading, and since he will have difficulty in learning to read if he does not understand the concepts used in readers, this seemed to be a valid way of identifying possible sources of difficulty for culturally-deprived children.

Once a set of concepts which are widely used in reading texts at the lower levels had been identified, a second step involved the adaptation of these concepts to a form usable with non-readers. Once again, the only solution seemed to involve the use of pictorial representation of the concepts, with the child being asked to mark the picture which best represented the given concept among a set of four pictures which comprised an item. Pictures of familiar objects were used as cues to help students in locating the appropriate item to correspond with oral instructions being given by the examiner. Fifty such items were constructed and arranged into two separate forms, with the hope of identifying 30 effective items from the two forms which could be put together into one test of appropriate length for the age levels concerned.

The two forms thus constituted were presented to a total of 314 children in nine elementary schools and one kindergarten. In this sample there were 109 Anglos, 17 Indians, 53 Negroes, and 135 Spanish. 259 of these children were in first grade, while 12 were in kindergarten and 43 were in second grade. (It should be noted that for the purposes of the present study the cross-cultural representation was not completely essential, since the goal of this pilot study was to identify methods of measuring concept attainment which could be appropriately used with young children.)

Many kinds of analyses were conducted on the results obtained from these preliminary trials, only the most pertinent of which will be discussed here. Among these, of course, was the determination of both the difficulty and the validity of the individual items, since this information was needed in choosing the best items. An index of validity was computed for each item by the use of the following formula:

$$(R_H - R_L) / R_H$$

(R_H refers to correct responses by the top 25 per cent of the subjects and R_L refers to correct responses by the bottom 25 per cent.)

In a similar fashion, item difficulty was determined by the use of the following formula:

$$(R_H - R_L)/N_H - N_L)$$

(N_H and N_L refer to the numbers in the top and bottom groups, respectively.)

If ninety percent or more of the subjects in the two groups get the item right, it was termed too easy for inclusion in the final form of the instrument. Twenty per cent or less of correct responses to a given item was deemed to indicate too high a level of difficulty for inclusion on the final form. Recommendations by Garrett (1959), that an item be tentatively retained as satisfactory with a validity index of .20 or higher, were followed in the considerations of that aspect. The use of these criteria resulted in the selection of the thirty items presented in Table 11, arranged in order of ascending difficulty. The pictorial representations of these items can be found in Appendix B.

TABLE 11

ITEMS FOR THE STANDARDIZED TEST

	FIRST GRADE			
	PER	CENT		
CONCEPTS	CORRECT	WRONG	VALIDITY	DIFFICULTY
EXAMPLES				
INSIDE	91	09	.30	.84
OCEAN	80	20	.32	.80

1. SEVEN	89	11	.40	.78
2. OFF	83	17	.40	.77
3. FOOD	90	10	.30	.75
4. FAR	83	17	.46	.69
5. ABOVE	68	32	.57	.66
6. HAT	66	34	.57	.66
7. ANIMAL	68	32	.21	.65
8. ACROSS	74	26	.52	.65
9. END	76	24	.60	.64
10. STRING	40	60	.60	.61
11. HOUSE	62	38	.48	.61
12. AWAY	80	20	.72	.61
13. OVER	66	34	.66	.61
14. BOAT	52	48	.28	.60
15. HOME	59	41	.70	.60
16. ALL	60	40	.57	.58
17. MAN	59	41	.59	.56
18. AFTER	59	41	.77	.54
19. READY	42	58	.71	.52
20. TOMORROW	40	60	.79	.50
21. VEGETABLE	36	64	.86	.46
22. IS	35	65	.80	.46
23. BELOW	72	28	.67	.46
24. WITH	44	56	.77	.42
25. ROAD	61	39	.38	.42
26. YESTERDAY	27	73	.88	.36
27. BEFORE	36	64	.87	.34
28. COUNTRY	27	73	.40	.30
29. ALONG	31	69	.60	.27
30. NEXT	26	74	.62	.21

The very acceptable validity of most of the items, coupled with the excellent range of difficulty, makes it seem that this test should be a meaningful and appropriate task for the young child. The obvious next step is to select another sample and begin the process of building local norms which might be used in predicting the readiness of a child to deal with the concepts which he will encounter in his first-grade reading experiences.

CHAPTER FIVE

The Measurement of Values

One of the aspects of the problem of reconciling the culturally-deprived child to the middle-class-oriented school seems to be that of differing value orientations. Numerous articles have pointed out the difficult adjustment process faced by the child who must learn not only the new routines and procedures of the school situation, but also the new ways of looking at life, in terms of what is really important and worth learning. The evidence seems to indicate quite clearly that the middle-class emphasis on the importance of certain academic skills, particularly in the verbal area, is not shared to the same degree by lower socio-economic classes.

Once again, a problem which has greatly hindered more precise evaluation of the effects of differing value structures upon the school readiness of the child is the fact that methods for obtaining information about the values held by young children are lacking. Most available methods for assessing value orientations depend upon reading ability and the ability to deal with rather abstract verbal concepts, which makes them inapplicable with the young child. For this reason, another focus of the present study involved the attempt to devise a method of assessment using pictorial representation of certain value dimensions.

The basis from which the development of the exploratory instrument proceeded was a study conducted by Muncie (1966), who found that certain verbal value-concept statements differentiated between Anglo and Navajo students. The verbal value statements which he devised were adapted for use with young children and placed on transparencies for projection with an overhead projector. Preliminary oral instructions were given to the subjects by the examiner, and each transparency was in turn flashed on a screen, along with an accompanying oral interpretation by the examiner. The subjects signified whether they felt that the projected concept was important or not by encircling either YES or NO on an answer sheet provided for that purpose. As a trial of an alternate mode of response, the last three items consisted of contrasting positions regarding a given concept, presented in two different scenes at the top and bottom of the transparency. In this situation, the subject was asked to choose the TOP or the BOTTOM picture on the transparency as being the more important.

Two contrasted groups of children were selected for the first trial of the preliminary instrument. One group consisted of 21 culturally-deprived, lower-class first grade students attending an elementary school located in a poverty area of Albuquerque. All of this group came from Spanish-speaking families. The second group consisted of 24 middle-class first grade students attending an elementary school in a middle-class area of the city.

TABLE 12

RESPONSES OF MIDDLE AND LOWER CLASS STUDENTS TO THE EXPLORATORY INSTRUMENT

Test	Middle Class		Lower Class			
Item	YES	NO	YES	NO	Phi	Chi Square
1	10	14	21	0	-.62	17.298*
2	19	5	20	1	-.236	2.5065
3	24	0	21	0	Untreated	
4	12	12	21	0	-.59	15.6645*
5	15	5	21	0	-.33	4.90*
6	12	12	21	0	-.59	15.6645*
7	24	0	20	1	Untreated	
8	16	8	15	6	-.05	.1125
9	21	3	21	0	Untreated	
10	17	7	21	0	-.40	7.2*
11	22	2	20	1	Untreated	
12	24	0	21	0	Untreated	
13	7	17	17	4	-.52	12.168*
14	4	20	15	6	-.55	13.6125*
15	6	18	14	7	-.42	7.938*
16	10	14	18	3	-.45	9.1125*
17	3	21	12	9	-.47	9.9405*
18	19	5	12	2	Untreated	
19	21	3	18	3	Untreated	

TABLE 12
(cont.)

Test Item	Middle Class YES	Middle Class NO	Lower Class YES	Lower Class NO	Phi	Chi Square
20	24	0	20	1	Untreated	
21	17	7	19	2	-.245	2.70
22	21	3	21	0	Untreated	
	TOP	BOTTOM	TOP	BOTTOM		
23	9	15	16	5	-.44	8.712*
24	20	4	16	5	+.09	.3645
25	23	1	10	11	+.54	13.122*

* significant at .05 level or above

The results obtained with the trial instrument with this group of children were somewhat difficult to interpret in many cases. Twelve of the 25 items (Table 12) were found to differentiate between the two groups of children at the .05 level of significance, but in many cases the direction of the difference was opposite from that which might have been expected. For example, one item asked the children to decide whether it was important to have a clean and well-kept lawn. In practice, middle-class families tend to place a much higher priority on this particular attribute than lower-class families, as indicated by the greater frequency of well-kept lawns in middle-class neighborhoods (one must, of course, take into account the fact that these families are also better able to afford them, which may account for part of the difference.) However, the lower-class youngsters responded without exception that well-kept lawns are important, while the middle-class children showed no such unanimity. It is impossible, on the basis of available evidence, to decide whether the lower-class group was simply verbalizing a value which is not internalized, or whether lawns represent something desirable from another way of life which is denied them. Whatever the case may be, the item differentiated clearly between the two groups of children, as evidenced by a chi square of 7.2 (see Table 12) which is significant at the .05 level.

A careful examination of Table 12, which shows the results obtained from the two groups, and of Appendix C, which includes the content of the items, reveals there were several other items which also fell into the category of being hard to explain. Such findings as the higher value placed by the lower-class group on reading for fun, speaking and writing English well, or taking travel vacations do not fit with the expectations which led to the development of these items. Once again, one can only speculate whether these are "surface" values which are accepted by the children as important simply because they recognize that such values characterize a large portion of the population, or whether they really desire the way of life represented by the values. It is clearly evident that further investigation is needed to seek answers to these questions, as well as to check the consistency of such response tendencies.

It should also be noted that the results obtained with several other items are much more in line with expectations. For example, the adaptive value of such practices as sharing clothing with siblings when finances are limited would lead one to expect that lower-class youngsters would regard them as important. Also, indications would lead us to believe that television occupies an important place in the lives of the lower classes, and it is easy to see how the children might generalize from watching baseball and basketball on television to a general attitude that the watching of such activities is important.

For the purposes of the present study, the most important findings of this phase of the investigation were that the presentation of simple value-concepts in pictorial form via overhead projector is apparently meaningful to young children, and that twelve items were found that yeilded significantly-different results with two groups of children from contrasting socio-economic backgrounds. As a result of these findings, it would seem well-justified to investigate further the possibility of using this method to identify children who might benefit from school-preparatory experiences.

CHAPTER SIX

Measurement of Vocabulary

Among the available existing instruments which seemed to show promise as means of evaluating the abilities and disabilities of culturally-deprived first grade children, the Peabody Picture Vocabulary Test seemed particularly applicable. The fact that it was already in pictorial form and appropriate for use with non-readers was a very strong point in its favor. Consequently, the power of the test to identify the culturally-deprived child was also subjected to preliminary investigation in this study.

The method of using contrasted groups was also applied in this phase of the investigation in order to provide some criterion for evaluating the meaning of the scores obtained. A school in the valley area of Albuquerque where children come almost exclusively from low socio-economic families was used as the source for one group of 30 first-grade children. Another group of 30 first-graders was chosen from a heights area where the children come almost exclusively from families in the upper middle class. In both cases, intact first-grade classes were used in order to avoid undue disruption of programs. While the disadvantages of this situation from the standpoint of possible biases are well known, there were no apparent selection factors in this case that should invalidate the results.

Tests were administered to both groups of children by a highly competent and experienced examiner during a period of about two weeks. Testing conditions were adequate, and the usual precautions were taken to avoid the interference of extraneous variables. Results obtained from the contrasted groups are presented in Table 13.

TABLE 13

COMPARISON OF PEABODY TOTAL SCORES FOR CONTRASTED GROUPS

	Privileged Group	Underprivileged Group
N	30	30
Mean	31.30	14.73
Sigma	7.50	7.07

t = 8.70*

* Significant at the .05 level.

The obtained t-score of 8.70 is, of course, indicative of a very significant difference between the two groups in terms of total score on the Peabody test. This result is not surprising, since the contrasted backgrounds from which the two groups of children came would lead one to expect that the more privileged children would fare much better in the kinds of activities required by the test. There is admittedly a "bootstraps effect" involved by which to test a criterion that one wishes to use in future selection. However, the assumptions that were made in the selection of the two groups were based on a variety of kinds of information about the differential of success in school-related activities which youngsters from the two different areas might be expected to show. The purpose here was to develop, from this knowledge, some understanding of the meaning of more objective criteria like test scores in the selection of other groups about which less may be known. Consequently, the prime focus in this kind of investigation was to determine what types of items contributed most to the ability of the total test to discriminate, so that one could get some idea about specific areas of disability in the underprivileged group.

With this in mind, an item-analysis of the Peabody Test was undertaken to see what kinds of items were passed by a clear majority of the privileged group and failed by a clear majority of the underprivileged group. Table 14 shows the content of some such items.

TABLE 14

PEABODY ITEMS SHOWING GREATEST DIFFERENTIATION BETWEEN PRIVILEGED AND UNDERPRIVILEGED GROUPS

Original Item No.	Required Identification	%Low Group Succeeding	%High Group Succeeding
37	Wasp	30	96
44	Cash	43	96
48	Argument	30	96

TABLE 14
(cont.)

Original Item No.	Required Identification	%Low Group Succeeding	%High Group Succeeding
50	Binoculars	40	90
52	Hive (Bees)	26	86
54	Insect	20	83
56	Weapon	40	90
60	Walrus	20	83
61	Filing (Clerical)	3	56
63	Horror	13	70
64	Chef	6	56

As the reader may have noted, the percentage of the privileged groups passing each of the items presented was at least 50 per cent higher than the percentage passing the same item in the lower group. It was hoped that a careful analysis of such items would reveal a pattern in which the effects of deprivation, in comparison with more privileged backgrounds, might be classified. Unfortunately, no such clear pattern appeared. One can look at almost any of the items and see how lack of experience with the referent or lack of familiarity with the term would be much more likely with underprivileged than with privileged children. For example, item 52 asks for the identification of "hive" among a group of four pictures.

It seems probable that the more privileged children would have been more likely than less privileged ones to have encountered such an object in travels or books, and also that it would have been more likely identified to them by its proper name. In the same way, it seems likely that both groups of children would recognize the revolver in item 56, but the lower-class child would probably know it only as a "gun", and would be unable to connect it with the term "weapon". Inspection of the other items revealed much the same probable factors in the reactions of the different children to the problem situations encountered in the test. Consequently, one can only conclude that the test measures a general kind of experience and verbal facility, and little would be gained for present purposes by attempting to break it down into more specific categories.

CHAPTER SEVEN

The Measurement of Reading Readiness

The last analysis in this study involved a widely-used reading readiness test. Certainly, reading readiness is a prime factor in any child's adjustment to school, since reading plays such an important role in so many of the school's activities. Moreover, the kinds of experiences which help to prepare a child to learn to read would also help to prepare him for other kinds of activities which he will encounter in a school situation. The ability to recognize and use various kinds of symbols, the capacity to follow directions and a basic understanding of certain meanings and relationships are all attributes which could only help the child in the adjustment process. Since these are all aspects of the Lee-Clark Reading Readiness Test, it seemed appropriate to investigate the applicability of that measure as an indicator of possible lacks in preparation on the part of the underprivileged child.

This particular aspect of the investigation was based upon information made available by the Albuquerque Public Schools, so the analysis was limited to the kinds of data which had been accumulated for other purposes in connection with a Headstart Program. That data consisted of pre-and post-test scores on the Lee-Clark obtained from a Headstart group. There was no privileged group to use as a basis for comparison. However, the possibility of comparing the scores made by children after exposure to the Headstart Program with those made before such exposure was a matter of real interest. There is widespread feeling on the part of experienced first-grade teachers that Headstart experience is helpful in preparing underprivileged children for school, and the possibility of identifying specific items on which Headstart might have improved performance was an intriguing one. If such items seemed to fall into a certain pattern, then one might gain some idea of how the program exerted its beneficial effects, as well as gaining some idea about the meaning and validity of scores as predictive measures.

Pre-Headstart and post-Headstart scores from fifty children from two schools in very low socio-economic areas of Albuquerque were made available for analysis. Several kinds of analyses were conducted to derive as much meaning as possible from these scores. First of all, comparisons were made between pre-and post-test means to determine whether there was a significant difference after the Headstart experience. Table 15 shows the results of this analysis.

TABLE 15

CHANGES IN MEAN SCORE ON LEE-CLARK READING READINESS TESTS AFTER HEADSTART EXPERIENCE

	Pre-test	Post-test
Number	50	50
Mean	34.46	44.52

TABLE 15
(cont.)

	Pre-test	Post-test
Sigma	6.33	8.24

$\overline{D} = 10.06$

$s^2_{\overline{D}} = 1.36$

$t = 8.67$*

* Significant at the .01 level.

The results of the preceeding analysis indicate that the mean scores on the test after the Headstart program were significantly higher than those before the program. While one must recognize the possible influence of regression and practice effects, it seems reasonable, in view of the magnitude of the gains, to say that something which was done by the program was being measured by the test. The next step was to investigate where the greatest gains were being made.

Using the success of the entire group on a given item as an indicator, it was found that performance on certain items tended to improve much more dramatically than that on other items. Using a gain of 25 per cent or more in the percentage of the group getting the item correct as a criterion, the items shown in Table 16 were selected.

TABLE 16

Sub-test	Item No. in sub-test	Nature of task	% gain in correct responses after Headstart
two	2	Letter discrimination	26
two	6	" "	26
two	8	" "	26
two	10	" "	26
two	11	" "	34
two	12	" "	36
three	20	Passenger capacity of pictured vehicles	26
four	8	word discrimination	34
four	9	" "	32
four	10	" "	26
four	14	" "	32
four	16	" "	36
four	17	" "	26

Inspection of Table 16 reveals the fact that all but one of the thirteen items which showed gains of 25 per cent or more were found in sub-tests two and four. In the case of sub-test two, the child's task was to choose from among four printed block letters the one that was different. The appropriate solution was to choose the letter which occupied a different position in the alphabet than the other three, which were all the same letter. One or more of the three representations of the same letter were printed in smaller print than the others. The children showed a consistent tendency on the first testing either to make no attempt at the task or to choose the smaller printing of the same letters as a different letter, rather than choosing the letter which differed in form and meaning instead of size. The whole idea of classification by what the letter represented, rather than size of the print, seemed to be beyond the children at that time. However, after the experiences provided by Headstart, they were much better able to cope with the task.

A very similar type of task was presented by sub-test four, except that the child was asked to recognize the word, among a group of four, that was the same as the word presented as a stimulus. Once again, many children were so incapable of the task that they made no attempt. Among those who made a choice, there seemed to be little comprehension that the various arrangements of letters presented to them included one which represented the same word as the stimulus. Their rate of success on the pre-test was very low, but improved considerably after their experience in Headstart.

Another kind of analysis that was performed with the data involved a comparison of the relatively-successful and relativelyunsuccessful (in terms of total scores) children in their reactions to specific items. The group was split into high (above median) and low (below-median) groups, and an item-by-item comparison of their responses was conducted. This comparison revealed 18 items in which there was a difference in success ratio of 50 per cent or more between the high and low groups. (It should be noted that this procedure yields the same information as phi coefficients, which were also computed for all items, since the items which show the greatest difference between high and low groups will also yield the highest phi coefficients.)

Table 17 shows the items which yielded the greatest differences between high and low groups in ratio of success to failure.

TABLE 17

Sub-test	Item No. in sub-test	Nature of task	% difference in success between high & low groups.
One	5	Matching letters	56
"	6	" "	56
Two	2	Letter discrimination	60
"	3	" "	68
"	4	" "	68
"	5	" "	56
"	6	" "	56
"	7	" "	56

TABLE 17
(Cont.)

Sub-test	Item No. in sub-test	Nature of task	% difference in success between high & low groups
"	8	" "	68
"	9	" "	64
"	10	" "	64
"	11	" "	52
"	12	" "	64
Four	2	Word discrimination	52
"	4	" "	52
"	6	" "	52
"	9	" "	52
"	12	" "	52

The items which differentiated best between groups followed a very similar pattern to those which revealed greatest improvement with Headstart training, in that there were equally distinctive tendencies which were rather apparent. Once again, sub-test two was a very effective discriminator, with all but one of the 12 items in the sub-test showing a differential of 50% or more in success between the groups. Five more highly-discriminating items appeared in sub-test four, and the remaining two were found in sub-test one.

The underlying rationale appears to be much the same for this type of differentiation as for the one discussed previously. In every case, the critical element which determined success or failure was the degree of ability to recognize letters, words, and categories. For many of these children, the task of deriving meaning from the abstract symbols was an impossible one, and they simply gave up in the face of it. For others, the task was a much simpler one, as evidenced by the fact that they experienced a much higher degree of success. In any case, a relatively brief period of introduction to the new kinds of tasks seems quite helpful, as revealed by the gains scored on the second testing.

CHAPTER EIGHT

Summary, Conclusions, and Recommendations

A summary of the findings of this study includes all of the following points:

1. Differences in certain self-concept dimensions can be detected even at the first-grade level when pictorial representations of differing aspects of the self-concept are used.
2. Pictorial representations of verbal concepts found in first-grade reading texts provides a meaningful way of assessing understanding of essential concepts without depending on reading ability.
3. The presentation of certain rudimentary value-distinctions via overhead projector results in significantly-different patterns of response by contrasted groups of children.
4. Total scores on the Peabody Picture Vocabulary Test were significantly different for a group of children drawn from a middle-class neighborhood than for a group of children

drawn from a low socio-economic neighborhood. No consistent patterns of response to given items were noted on the part of either group.

5. Differences among children with respect to their patterns of response on the Lee-Clark Reading Reading Readiness Test indicate that difficulty in recognizing and categorizing symbols is an important factor in the difficulties of underprivileged children with that measure. Abilities in the area of categorizing symbols were improved through Headstart Experiences.

Consideration of the above summary of findings would seem to indicate that the goals toward which this initial pilot project were aimed have been satisfactorily achieved. Children react to pictorial representations of simple self-concept dimensions as though these representations are meaningful to them, which means that continued effort in the direction of assessing the self-concept variable by this means would be well justified. More and better pictorial representations of a variety of self-concept dimensions should be developed and validated on larger samples of children. In addition, pictorial representation of verbal concepts seems to be an appropriate effort, and should be pursued with additional samples of children. Further, the question of values seems amendable to investigation by the trial method devised, which should lead to further research along those lines.

In addition to the promising indications achieved with the specially-developed trial instruments, the findings from the trials of the Peabody Picture Vocabulary Test and the Lee-Clarke Reading Readiness Test would indicate that these instruments can contribute to the identification of children in need of special help in preparing for school. Probably the most fruitful area of investigation with these instruments would be the development of local norms which might increase the predictive validity of the tests. Information about the subsequent school success of children scoring at different levels on such tests would be of great value in the interpretation of scores.

The general recommendations that would seem to follow from this pilot study, then, would be that work should be pushed on all fronts involved in this study. Additional trial forms of the pictorial instruments should be devised, and all of the instruments, including the standardized ones, should be used with as many different groups of children as possible. Longitudinal studies should then be made to determine the relationship between scores obtained on the measures and subsequent success in school work.

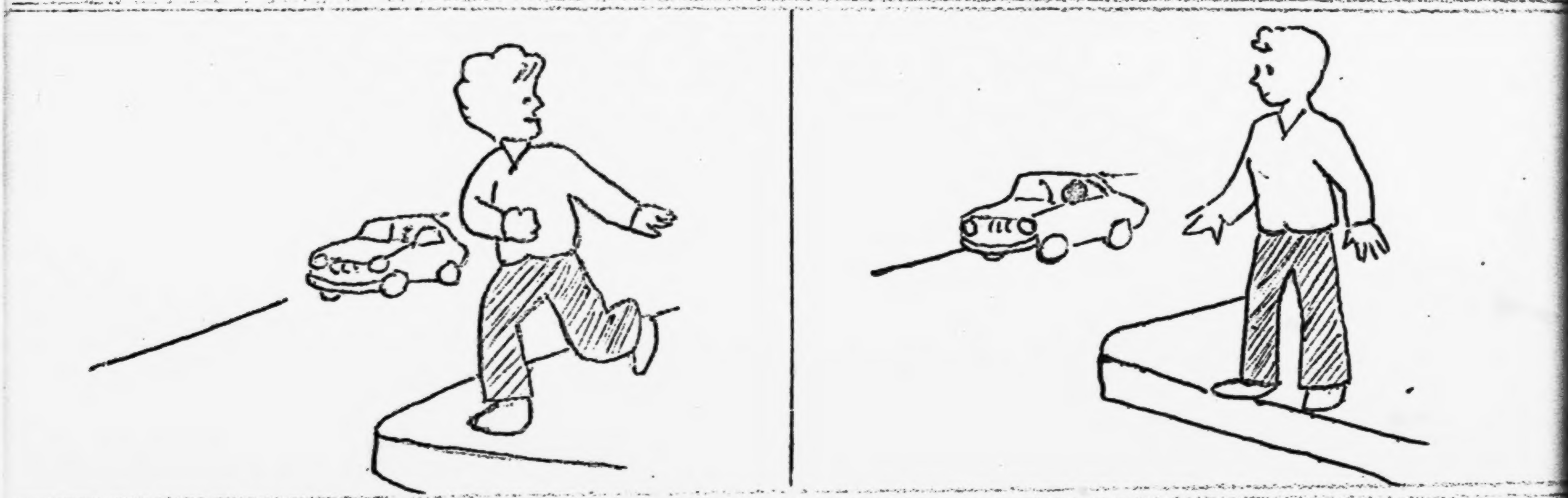
APPENDIX A

Instructions for Administering the Self-Concept Measure.

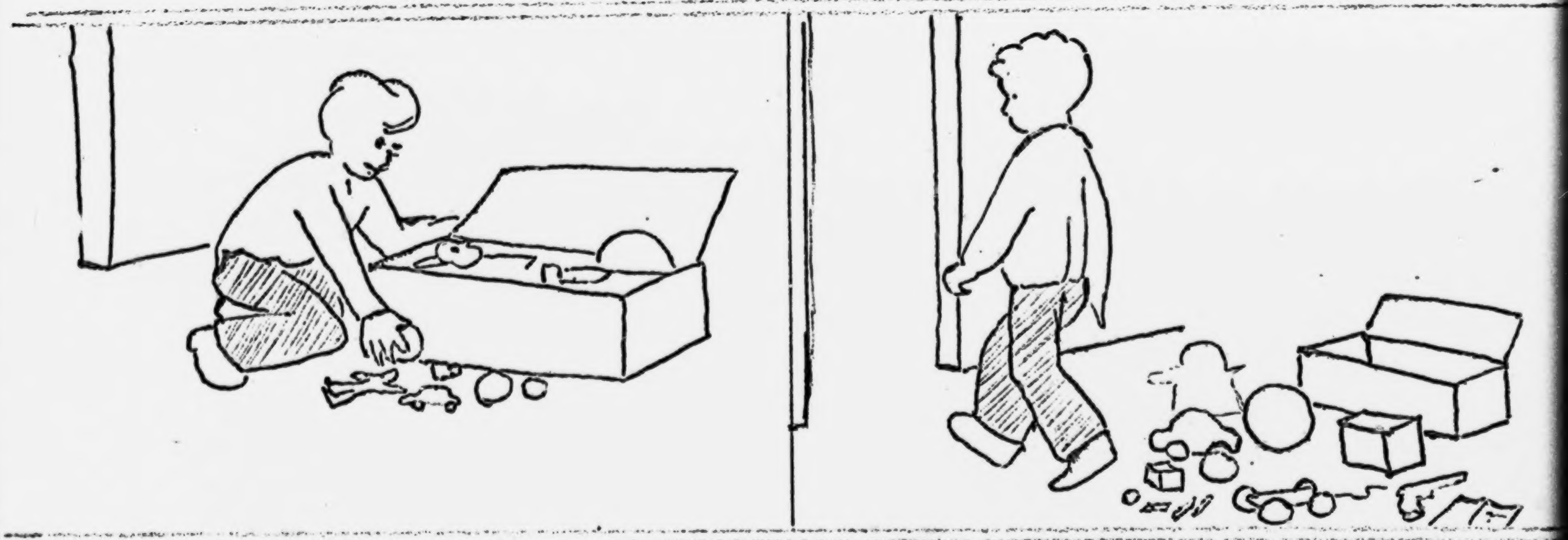
1. After the children know who you are, explain to them that you need their assistance to help the schools in doing a good job.
2. Ask them to ask questions at any time if they don't understand what you say or what is to be done.
3. Pass out booklets and ask them to leave them closed.
4. Go around class and mark each booklet with identifications required, sex and achievement status and school location.
5. Check to see if everyone has a pencil, ask them to show it to you. Then use blank page to practice making a mark.
6. Explain that the rest of the booklet contains pairs of pictures and that they are to mark one of each set. Stress the fact that no one will know how they mark booklet.
7. Ask them to turn the page and mark one of the set. Check to see if everyone is ready and then ask them to turn to the next page, etc. Read the instructions on each page. These instructions are found on the test instrument shown on the next page.
8. The instructions for each set should be read each time with question one being asked for the first twenty-five sets and question two for the second twenty-five.

9. Go around the class and make sure that everyone is on the right page.

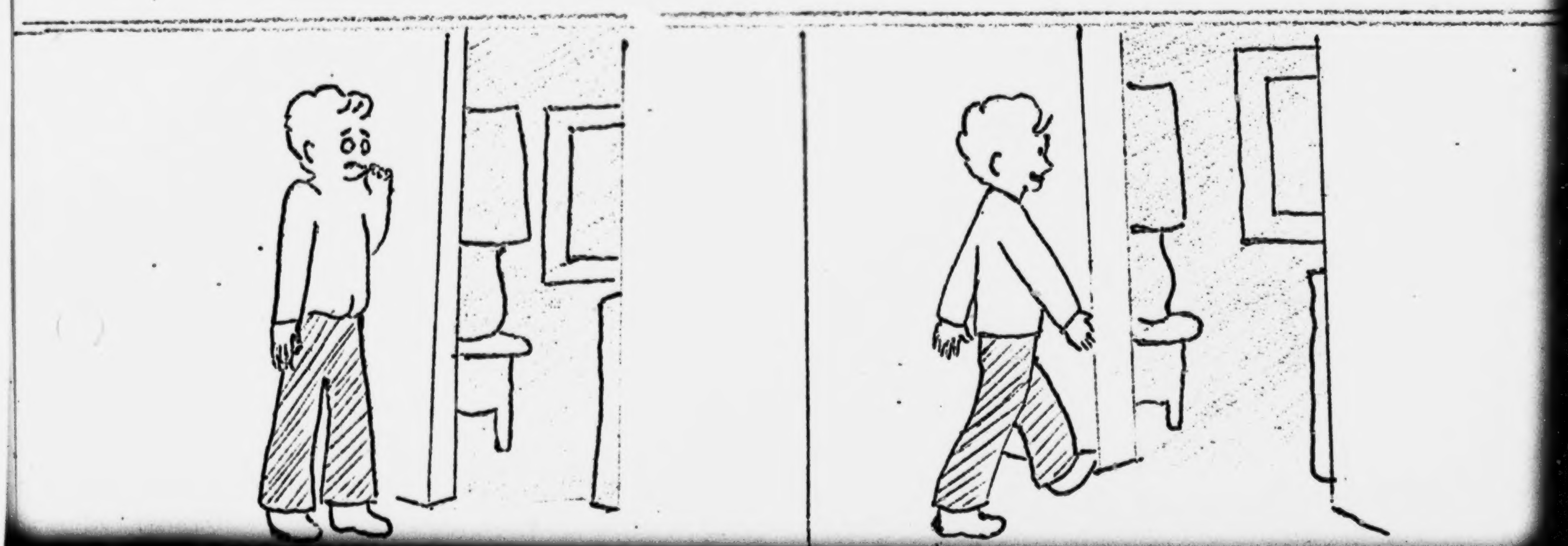
1. Here are two children at a street corner.
    a. Which one is most like you?
    b. Which one would you most like to be?



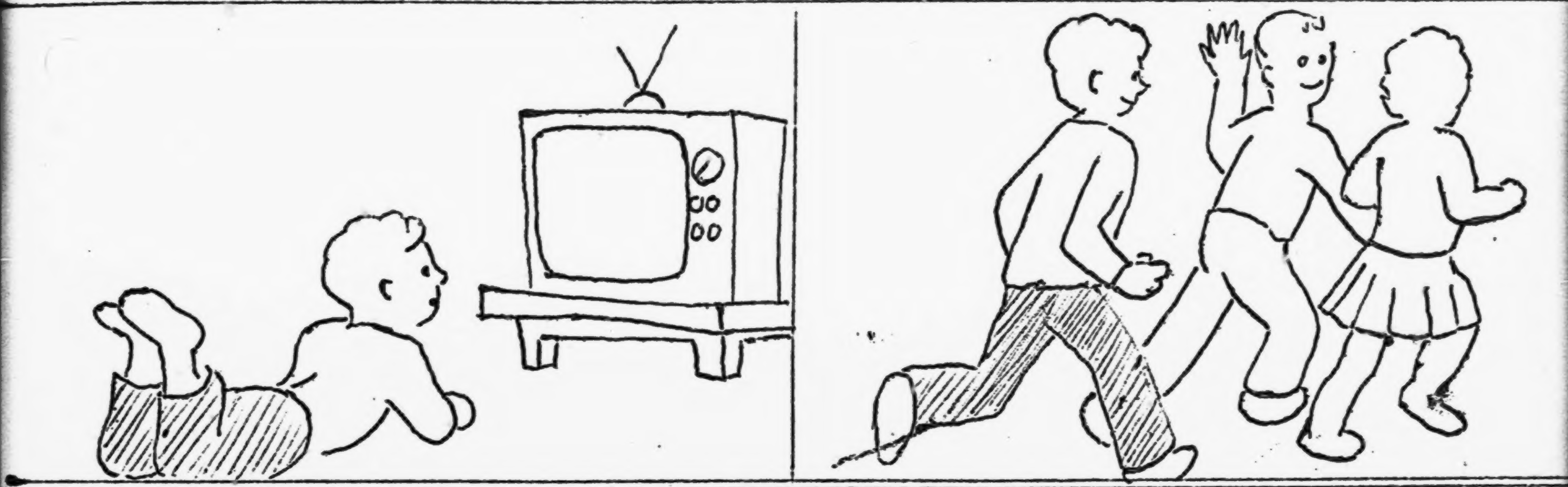
2. Here are two children in their rooms.
    a. Which one is most like you?
    b. Which one would you like to be?



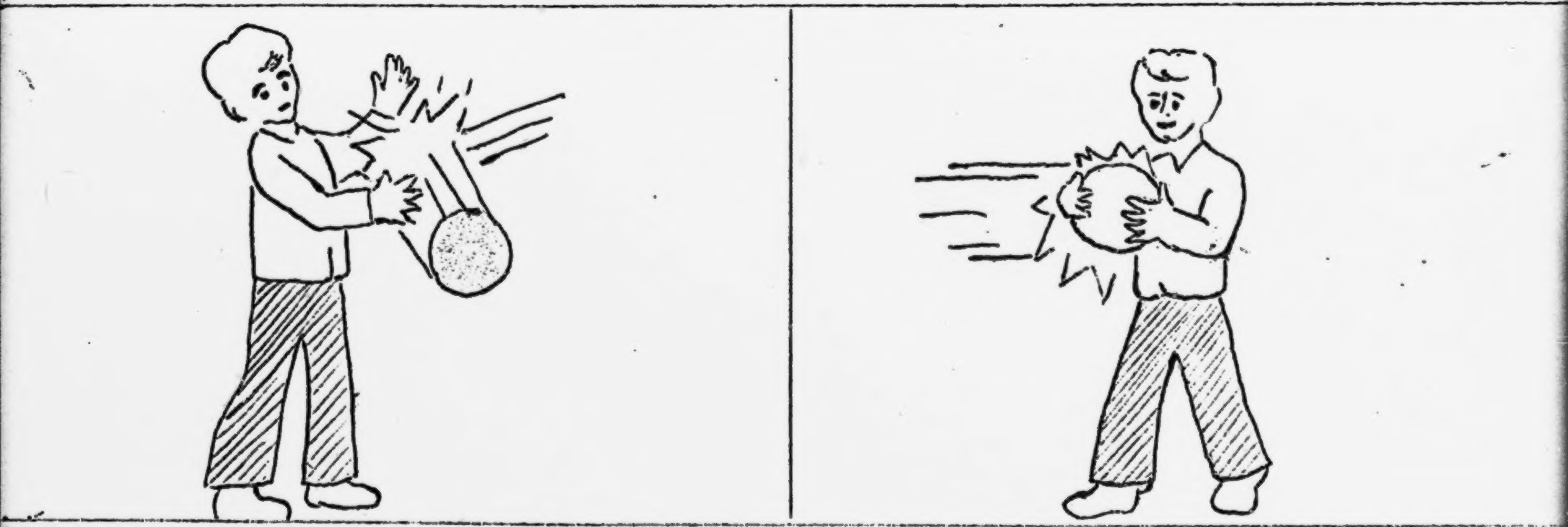
3. Here are two children in front of a dark room.
    a. Which one is most like you?
    b. Which one would you most like to be?



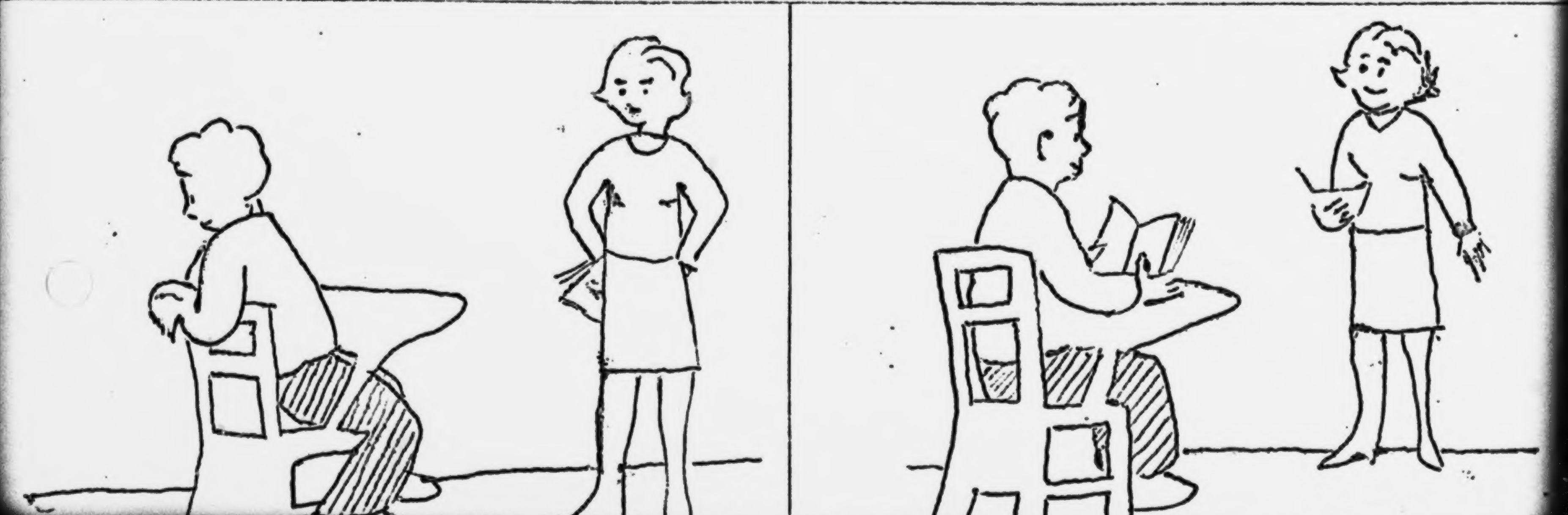
4. One of these children is watching TV and the other is playing with friends.
   a. Which one is most like you?
   b. Which one would you most like to be?



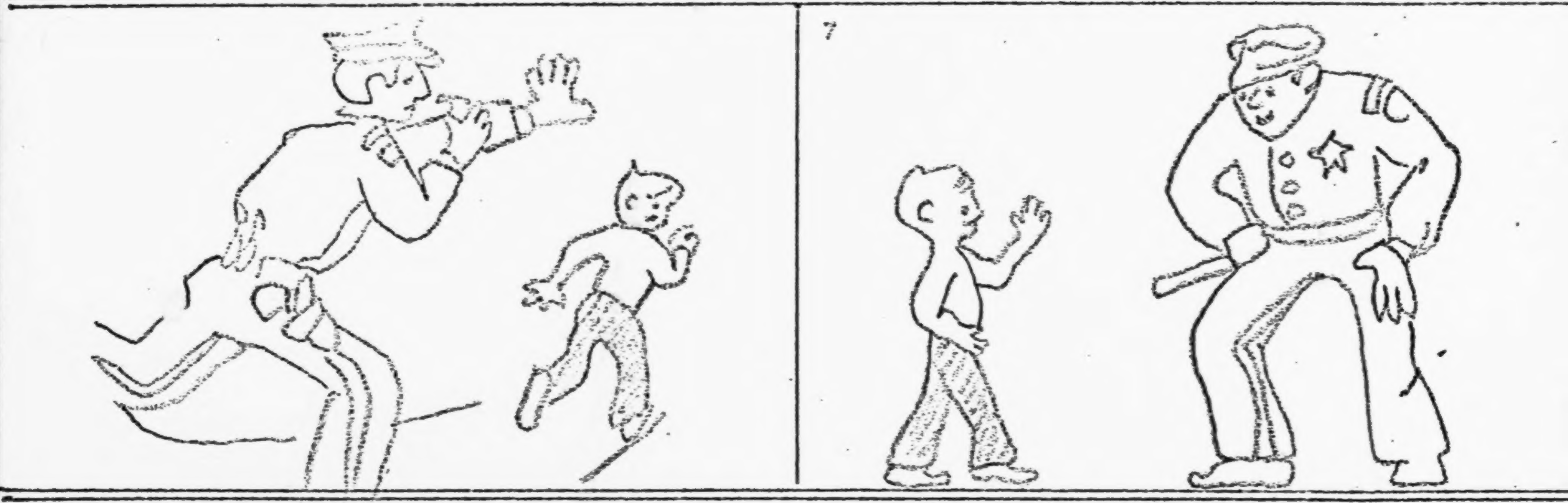
5. One child is dropping the ball and the other is catching it.
   a. Which one is most like you?
   b. Which one would you most like to be?



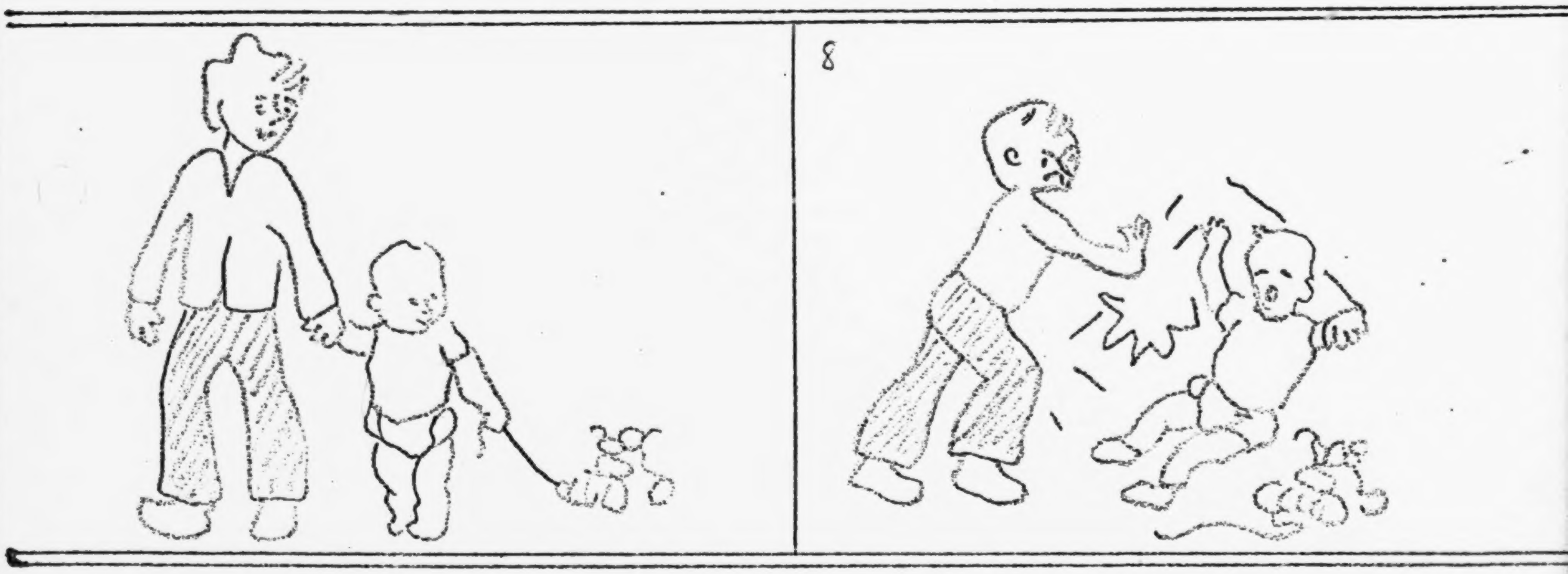
6. One child is not listening to the teacher and the other is.
   a. Which one is most like you?
   b. Which one would you most like to be?



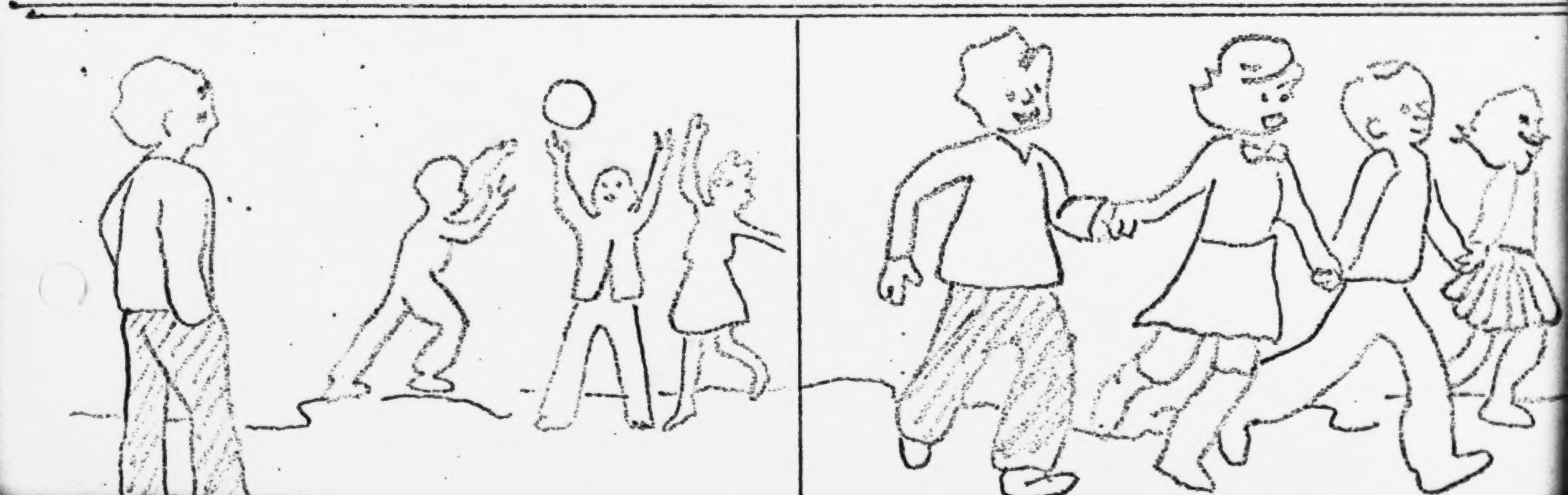
7. One child is afraid of the policemen and the other is friendly to him.
   a. Which one is most like you?
   b. Which one would you most like to be?



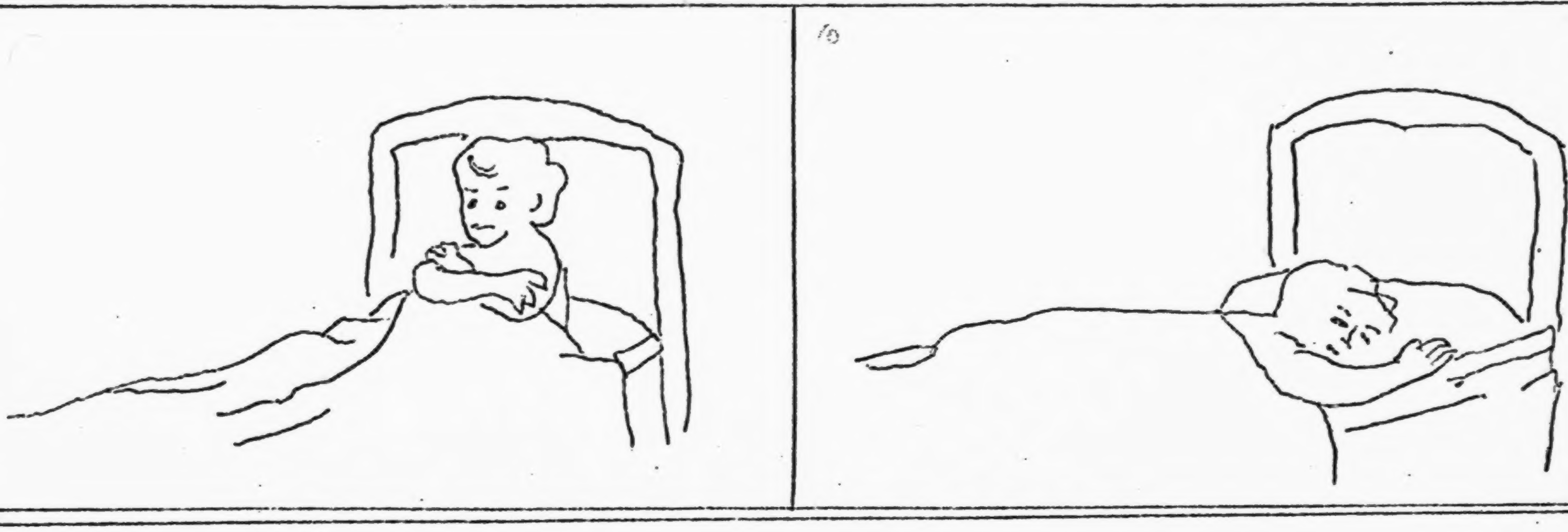
8. One child is playing with the baby while the other is pushing him away.
   a. Which one is most like you?
   b. Which one would you most like to be?



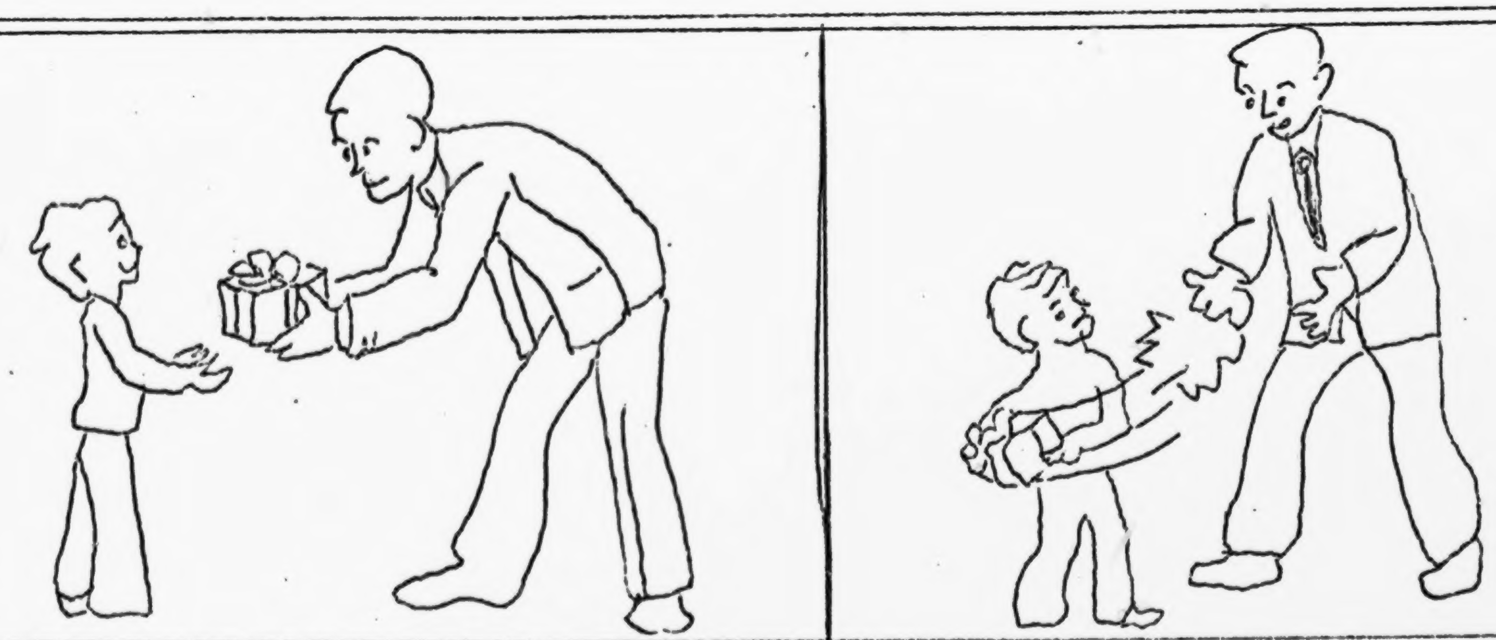
9. One child is watching the others play and the other child is playing with them.
   a. Which one is most like you?
   b. Which one would you most like to be?



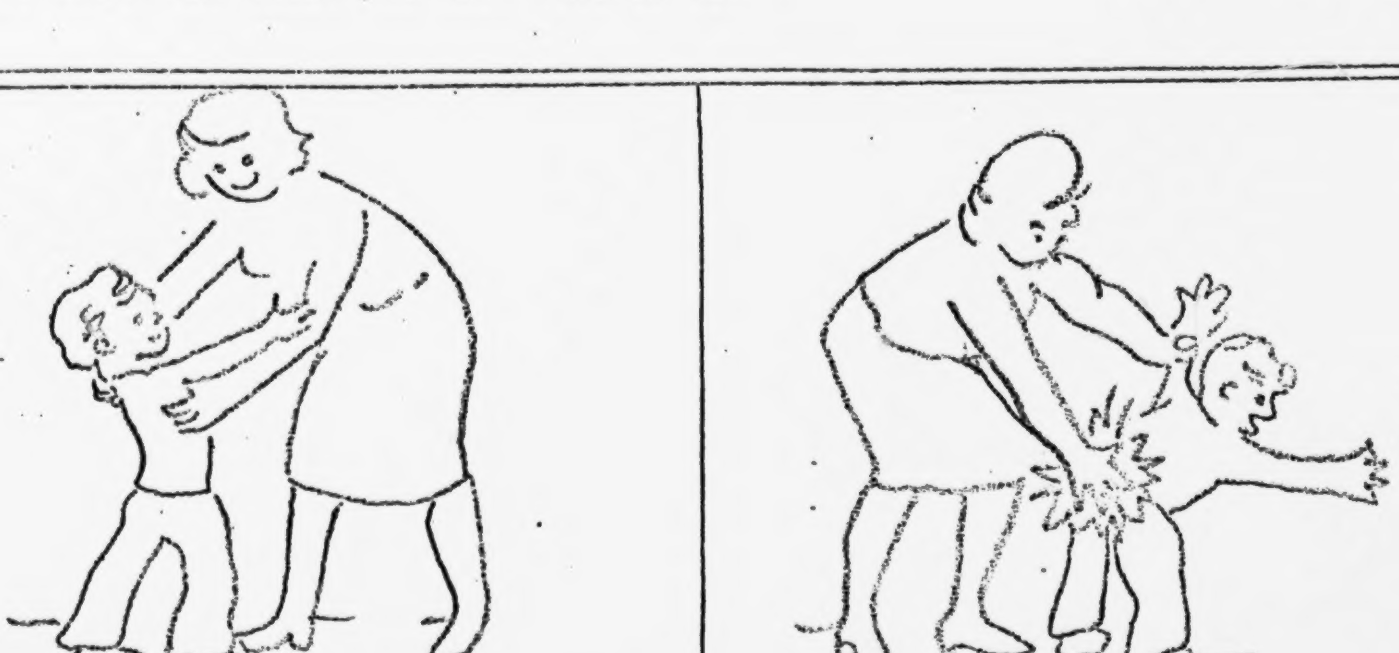
10. One child is staying awake at nap time, while the other goes right to sleep.
    a. Which one is most like you?
    b. Which one would you like to be?



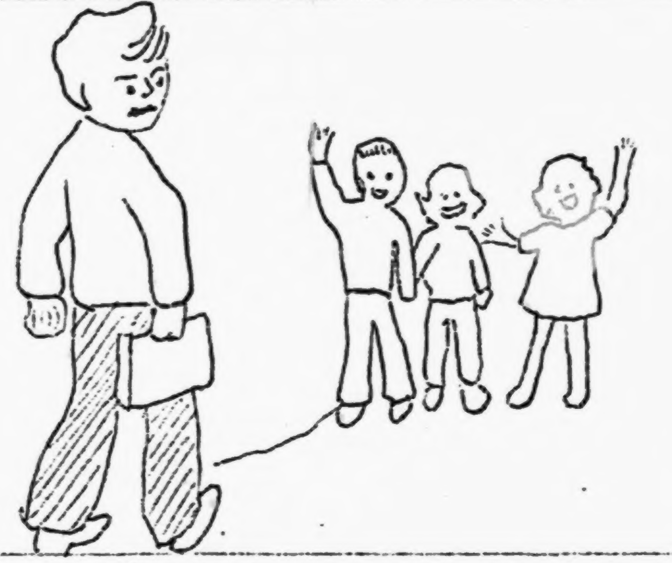
11. These two children are taking gifts in different ways.
    a. Which one is most like you?
    b. Which one would you most like to be?

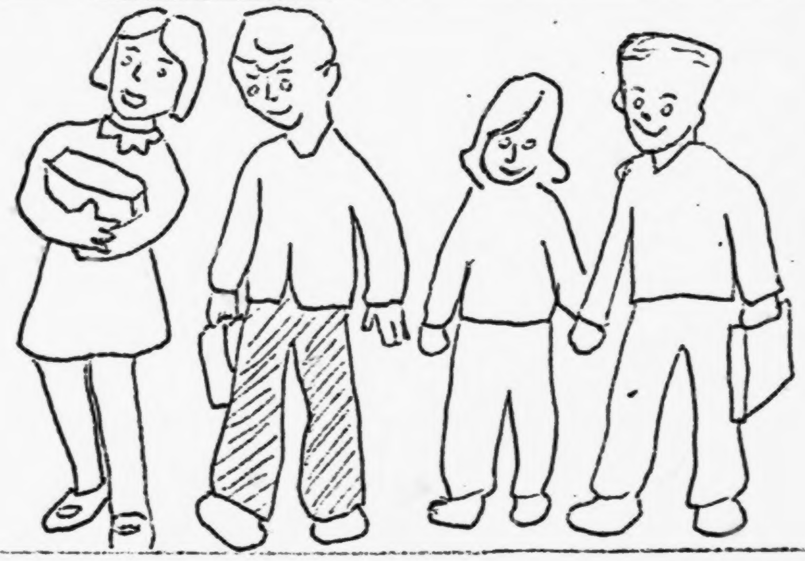


12. Here are two children with their mothers.
    a. Which one is most like you?
    b. Which one would you most like to be?

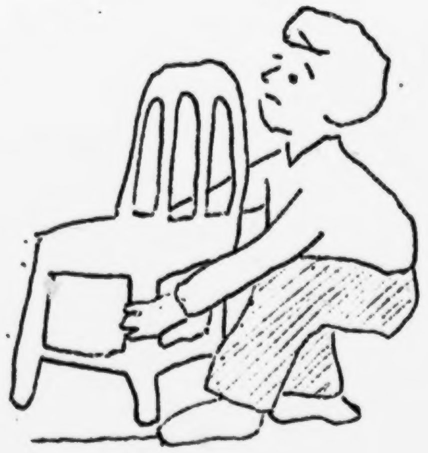


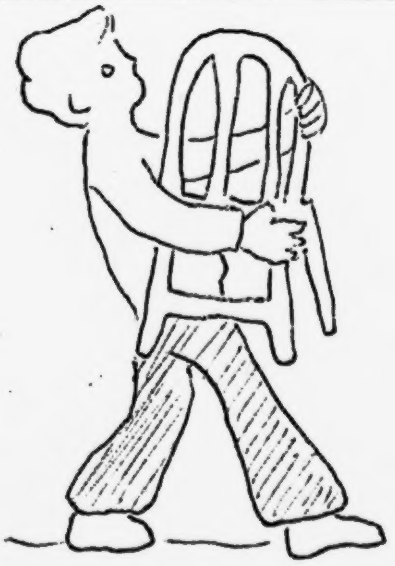
13. One of these children walks home from school alone, while the other walks with friends.
   a. Which one is most like you?
   b. Which one would you most like to be?



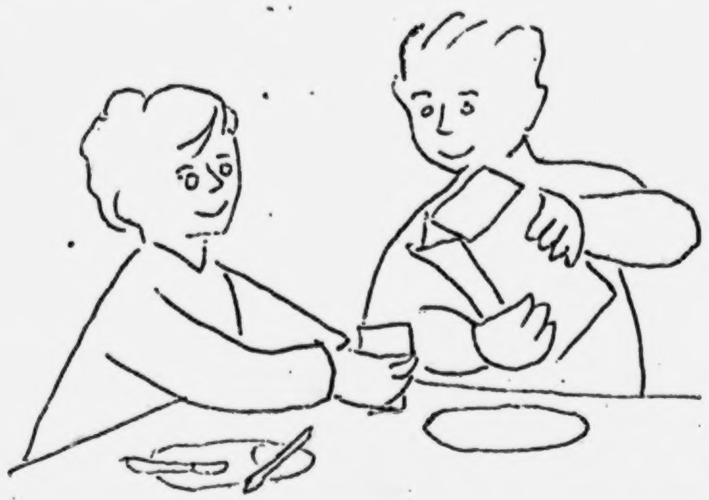


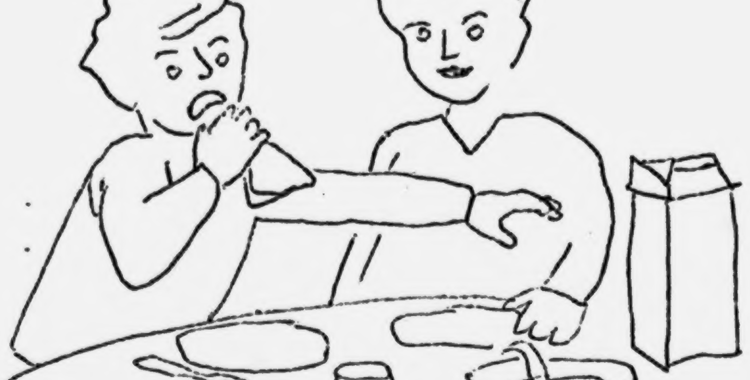
14. One of these children is having trouble lifting the chair, while the other carries it.
   a. Which one is most like you?
   b. Which one would you like to be?



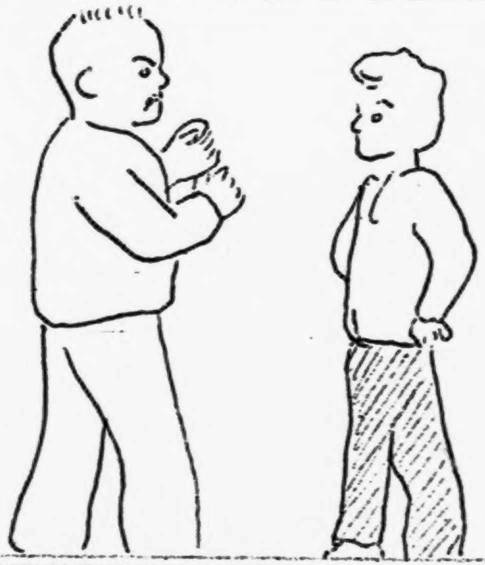


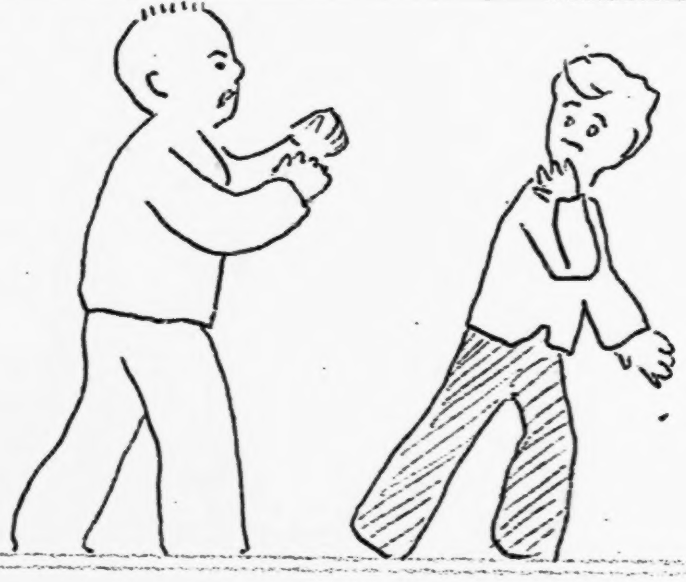
15. The two children are acting differently at the table.
   a. Which one is acting most like you?
   b. Which one is acting most like you would like to act?



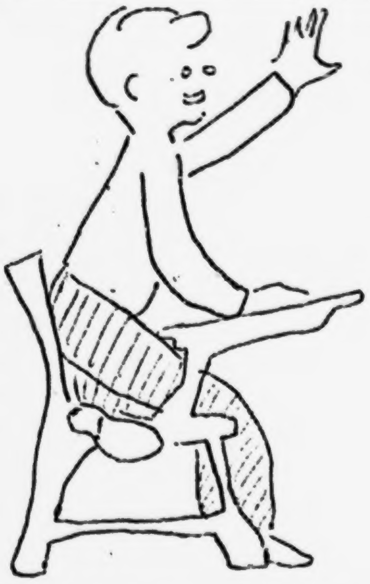


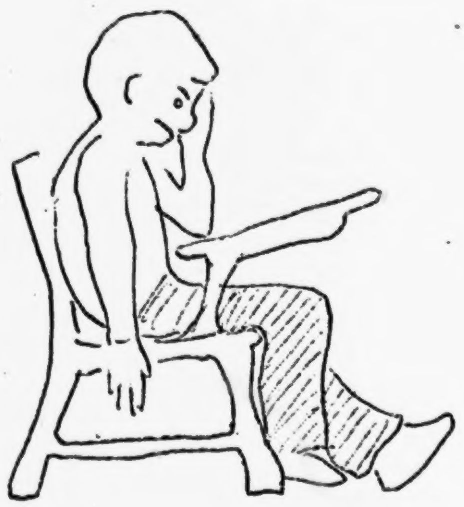
16. One of these children is not afraid of the bully, but the other is afraid.
a. Which one is most like you?
b. Which one would you most like to be?



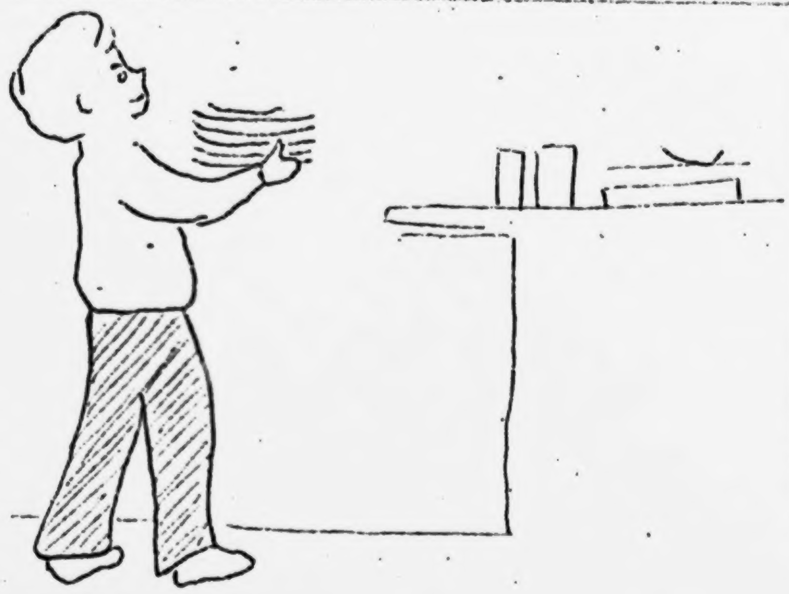


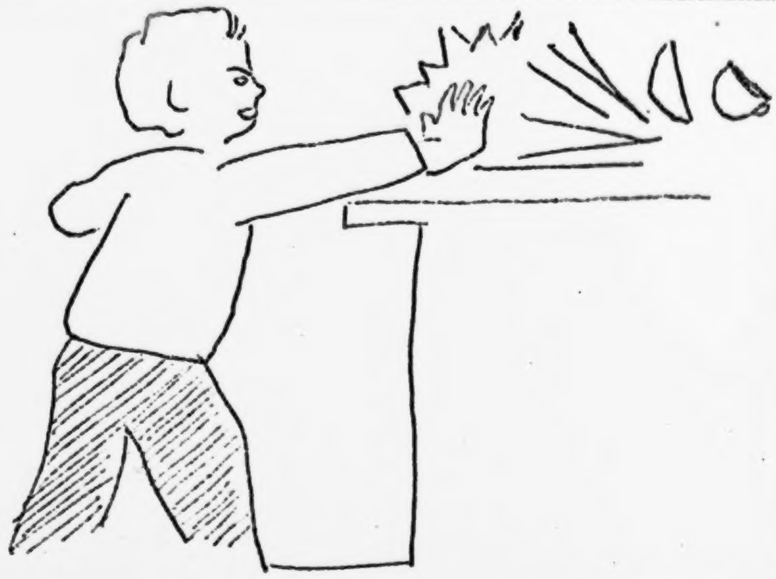
17. One of these children is interested in what the teacher says, but the other is not.
a. Which one is most like you?
b. Which one would you most like to be?



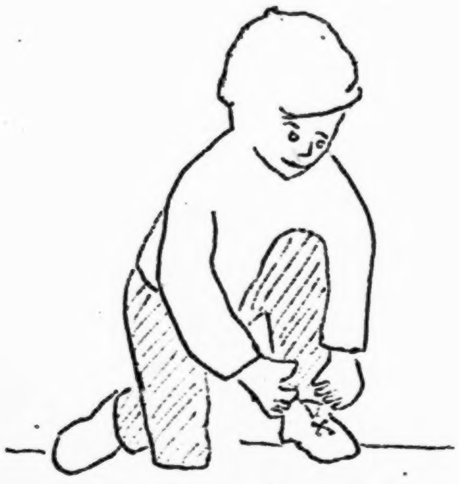


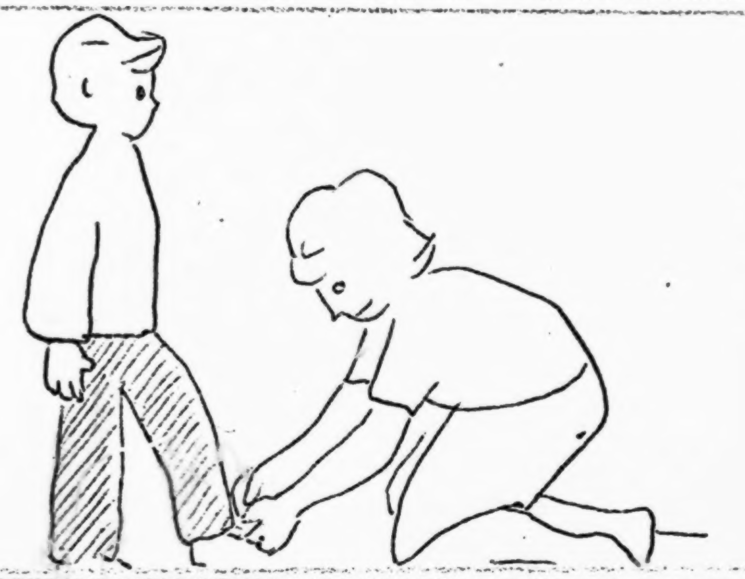
18. One of these children is stacking the dishes, while the other is pushing them.
a. Which one is most like you?
b. Which one would you most like to be?



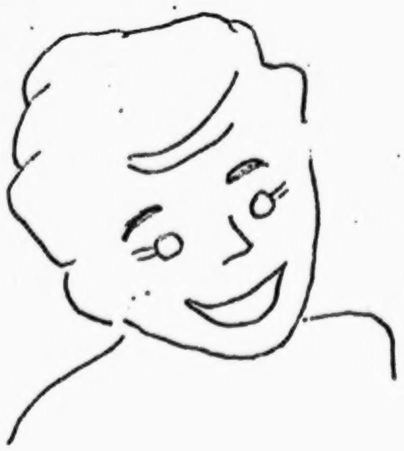


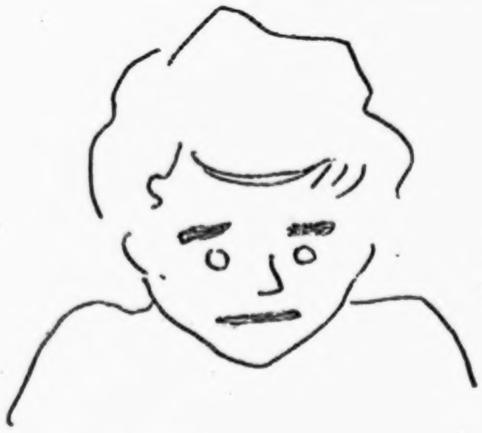
19. One child is tying his own shoe, while the other is having his mother do it.
    a. Which one is most like you?
    b. Which one would you most like to be?



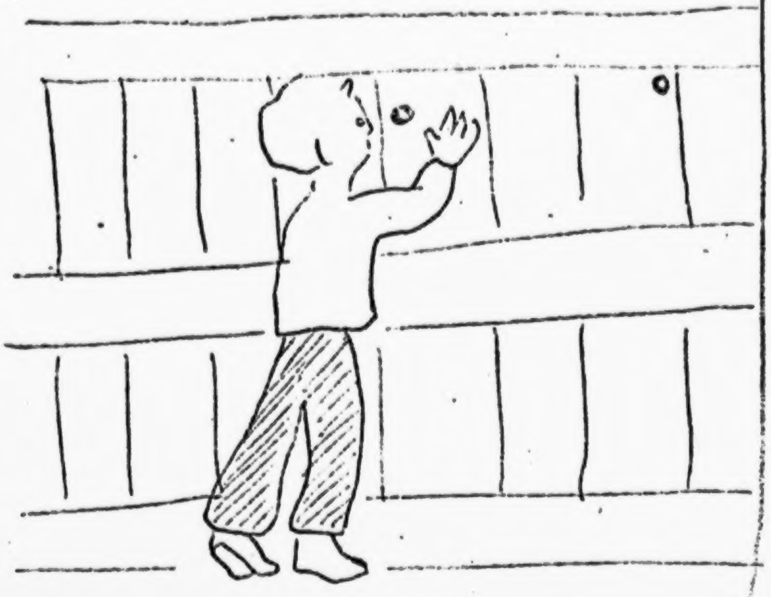


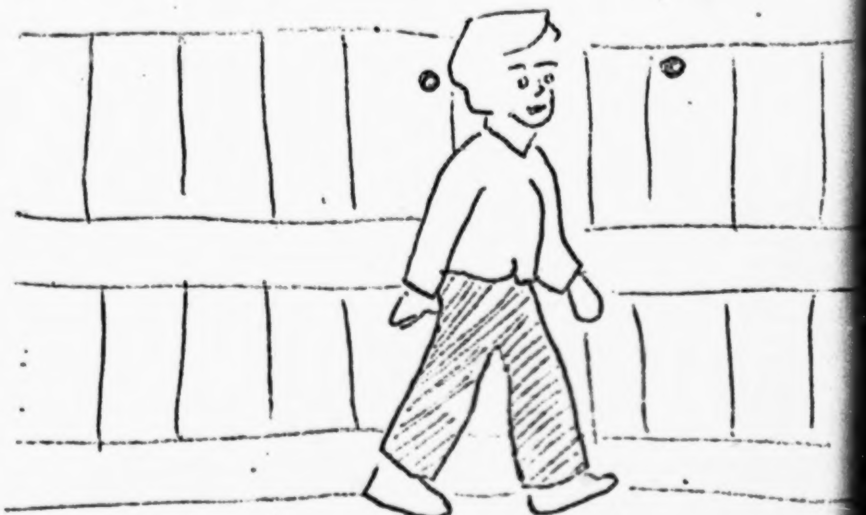
20. One of these two children is smiling, and the other is not.
    a. Which one is most like you?
    b. Which one would you most like to be?



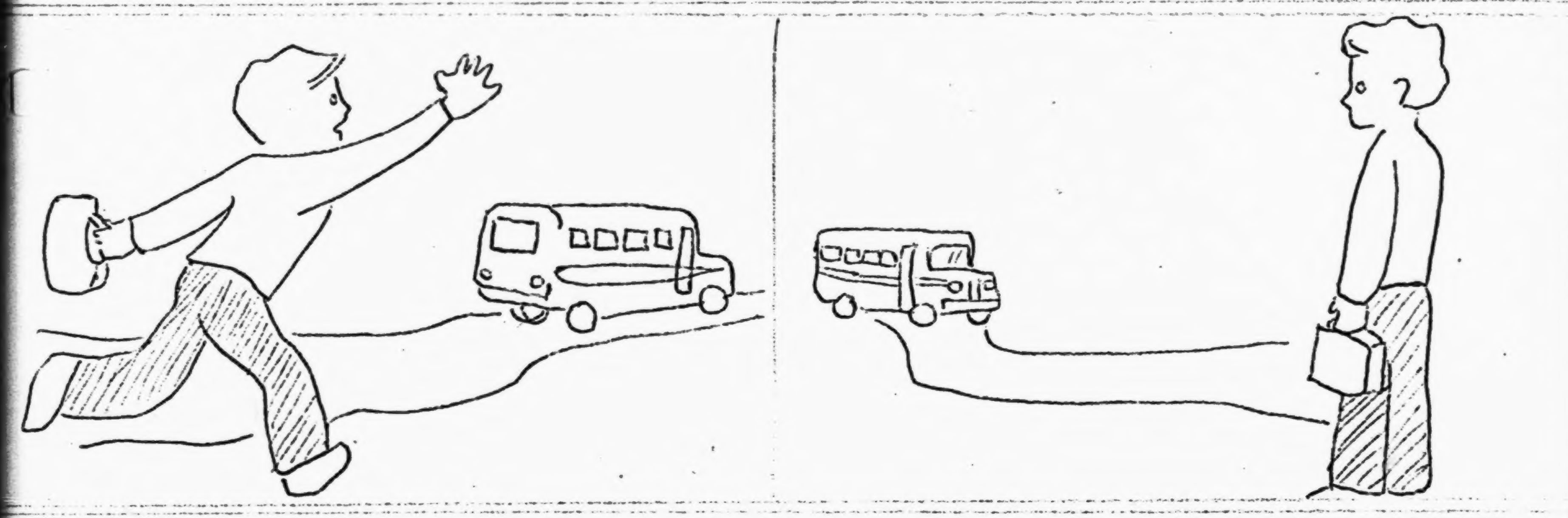


21. One child peeks through the hole in the fence, but the other doew not.
    a. Which one is most like you?
    b. Which one would you like to be?

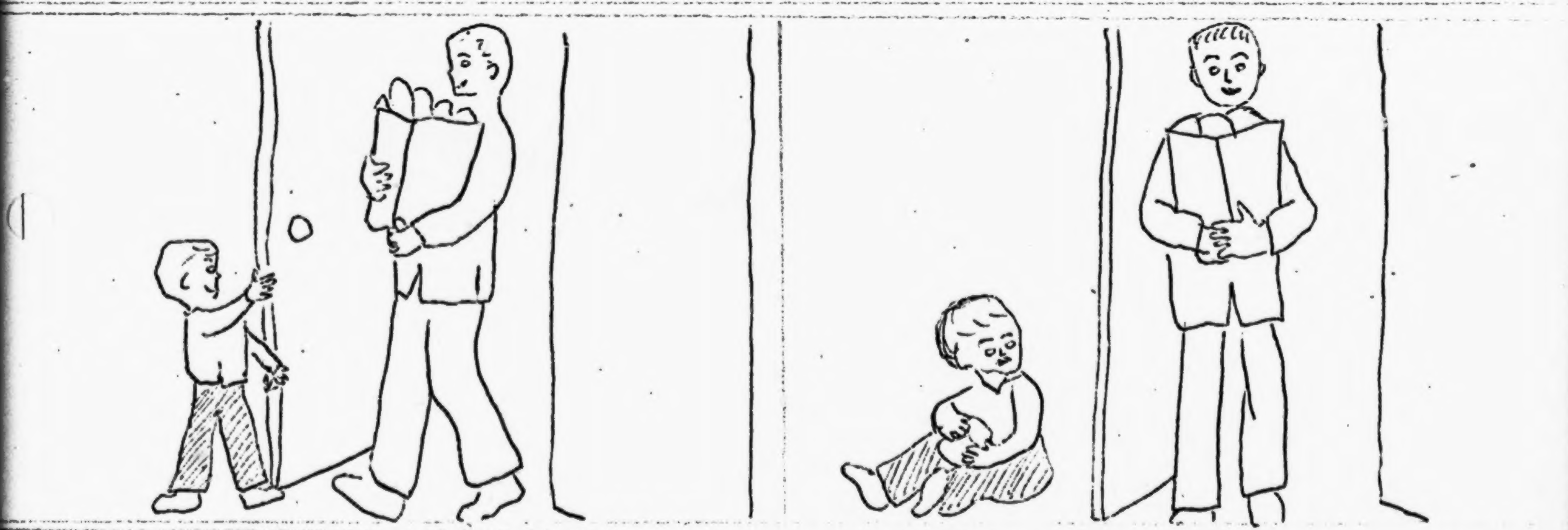




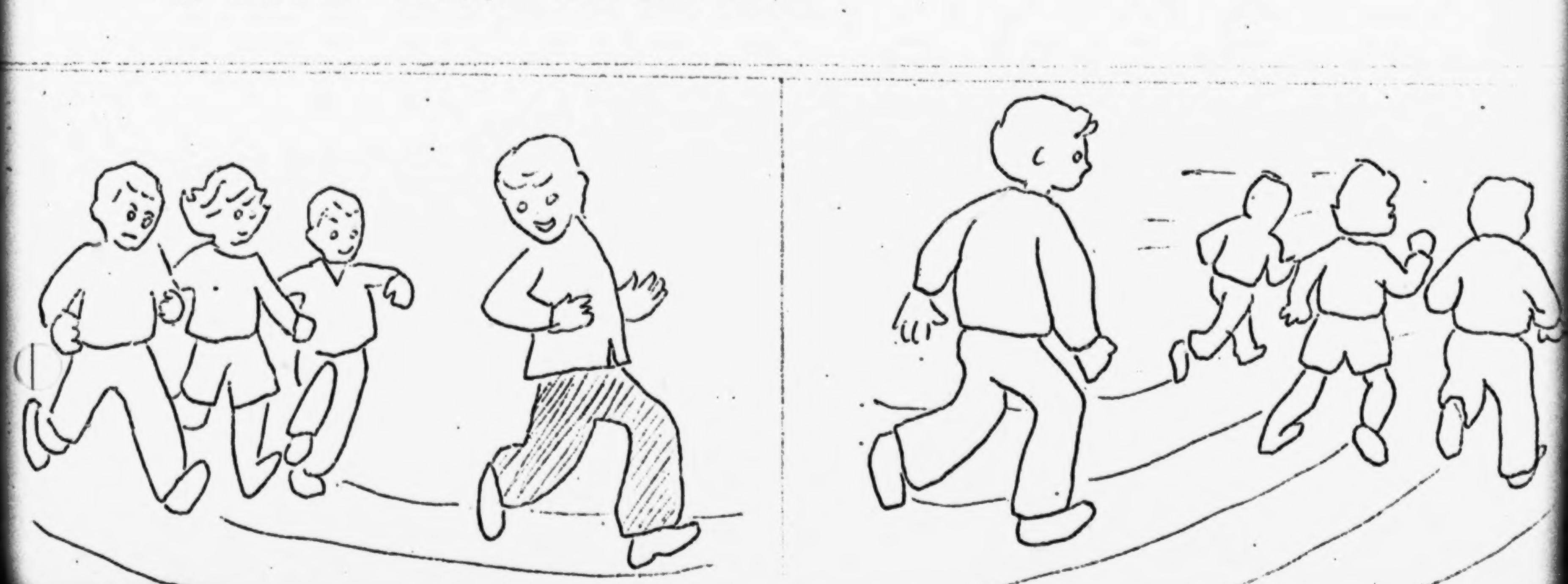
22. One child is late and misses his bus, while the other is early and waits for the bus.
   a. Which one is most like you?
   b. Which one would you most like to be?



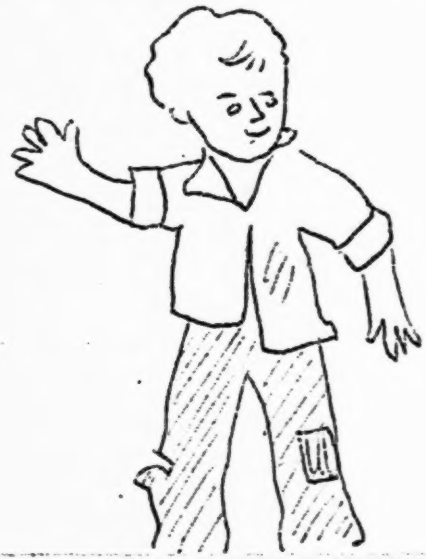
23. One child holds the door for the adult, but the other goes right on playing.
   a. Which one is most like you?
   b. Which one would you most like to be?

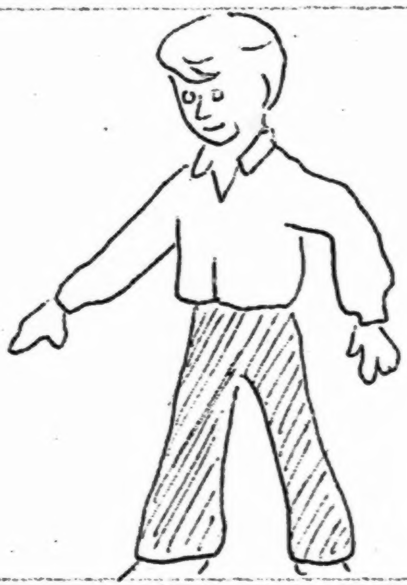


24. One child is ahead in the race with the others and the other child is behind.
   a. Which one is most like you?
   b. Which one would you most like to be?



25. Notice the differences in the way these two children are dressed.
    a. Which one is most like you?
    b. Which one would you most like to be?





TEST DIRECTIONS

FOR

CONCEPT ATTAINMENT IN FIRST GRADE STUDENTS

DIRECTIONS: PROVIDE EACH STUDENT WITH A BRIGHT CRAYON. EXPLAIN THAT HE IS TO USE THE CRAYON TO MARK PICTURES THE TEACHER WILL TELL HIM ABOUT. DEMONSTRATE ON THE CHALKBOARD HOW THE STUDENT IS TO MARK THE PICTURE HE CHOOSES WITH A LARGE X. WHEN READY TO BEGIN THE TEST, TELL THE CHILDREN TO LISTEN CAREFULLY TO THE DIRECTIONS BEFORE THEY MARK ANY PICTURES. EXPLAIN THAT THE DIRECTIONS FOR EACH PICTURE TO BE CHOSEN WILL BE READ TWICE. ENCOURAGE THEM NOT TO BEGIN LOOKING FOR THE CORRECT PICTURE UNTIL THE DIRECTIONS HAVE BEEN READ TWICE FOR EACH ITEM. WORK THE TWO EXAMPLES WITH THE CLASS BEFORE THE TEST BEGINS.

SAY TO THE STUDENTS, "PUT AN 'X' ON THE PICTURE OR BLOCK WHICH HAS SOMETHING INSIDE IT." CHECK TO SEE IF STUDENTS CAN DO IT.

SAY TO THE STUDENTS, "PUT AN 'X' ON THE PICTURE OF AN OCEAN." TAKE THE TIME TO CHECK AND MAKE SURE EACH STUDENT CAN FOLLOW THE DIRECTIONS.

CORRECT RESPONSES ARE INDICATED IN PARENTHESES FOLLOWING INSTRUCTIONS FOR EACH ITEM.

BE SURE AND SAY FOR EACH ITEM, "FIND THE STAR, THE BOAT, THE FLOWER, THE CAT, ETC." ACCORDING TO THE ITEM YOU ARE ON. THEN READ THE INSTRUCTIONS FOR THE ITEM.

1. FIND THE PICTURE WITH SEVEN THINGS IN IT (2)
2. FIND THE PLATE WITH THE SPOON OFF OF IT (4)
3. FIND THE PICTURE OF FOOD (1)
4. FIND THE BOAT WITH THE BIRD FAR AWAY (4)
5. FIND THE AIRPLANE WITH A CLOUD ABOVE IT (2)
6. FIND THE HAT (4)
7. FIND THE ANIMAL (1)
8. FIND THE HIGHWAY WITH A LOG ACROSS IT (4)
9. FIND THE BOARD WITH THE CIRCLE ON THE END (4)
10. FIND THE STRING (1)
11. FIND THE HOUSE (3)
12. FIND THE BIRD FLYING AWAY FROM THE HOUSE (2)

13. FIND THE PITCHER WHICH HAS A LINE OVER IT (3)
14. FIND THE BOAT (1)
15. FIND THE HOME (3)
16. FIND THE BASKET WITH ALL THE NUTS IN IT (2)
17. FIND THE MAN (4)
18. PUT AN "X" ON THE CHILD WHO WILL COME AFTER THE CLOWN
19. FIND THE BOY WHO IS READY FOR SCHOOL (3)
20. LET US ALL BELIEVE TODAY IS WEDNESDAY. (TEACHER SHOW STUDENTS BLOCK MARKED WEDNESDAY. MAKE SURE EACH STUDENT HAS HIS OR HER FINGER IN THIS SPACE.) NOW, PUT AN "X" ON THIS MAKE BELIEF CALENDAR WHERE TOMORROW WILL BE MARKED.

21. FIND THE VEGETABLES (3)
22. FIND THE PICTURE WHICH YOU CAN SAY, "THE__________ IS MY PET. (4)
23. FIND THE AIRPLANE WITH THE CLOUD BELOW IT (1)
24. FIND THE PICTURE WHICH YOU CAN SAY, "THE_________ WITH THE ___________. (2)

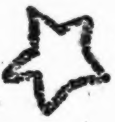
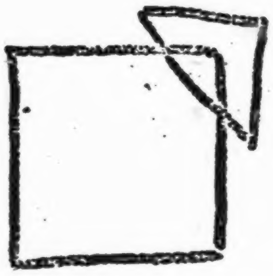
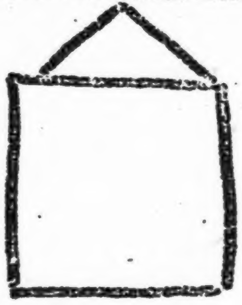
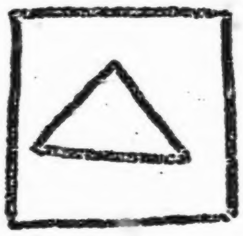
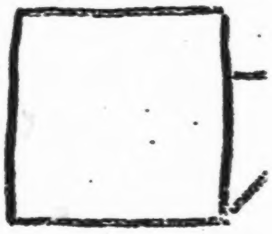
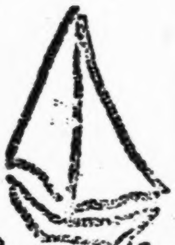
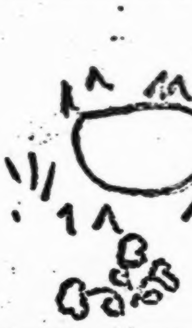
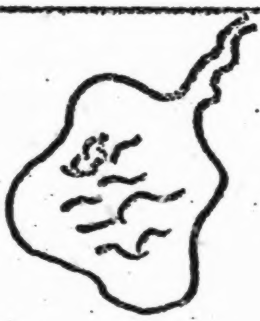
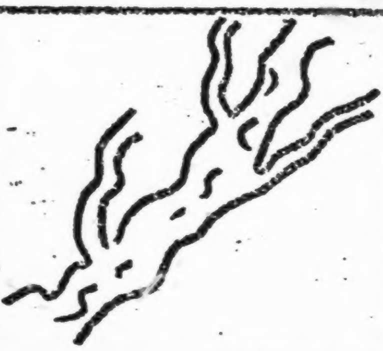
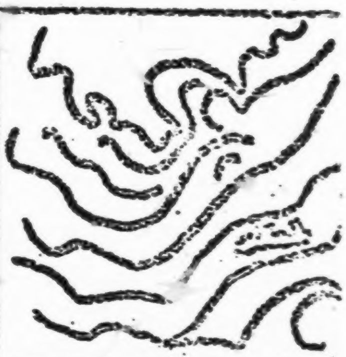
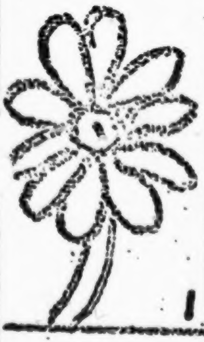
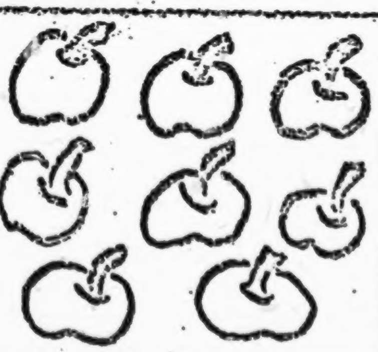
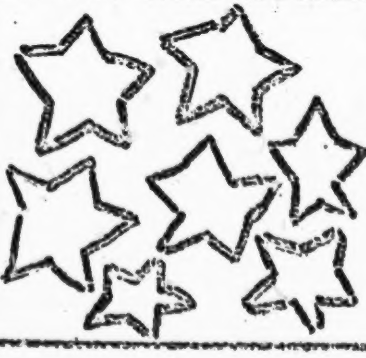
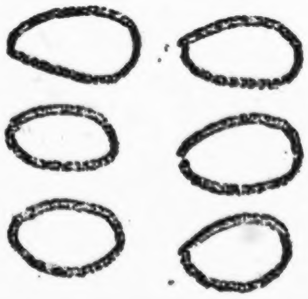
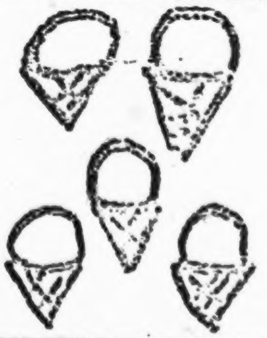
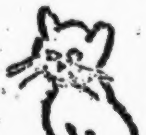
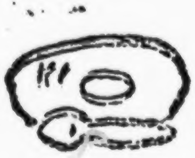
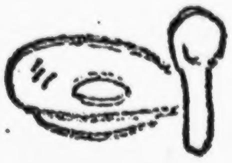
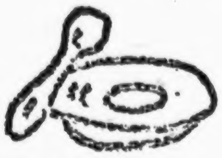
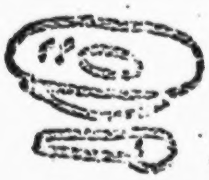
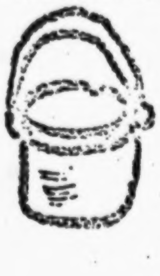
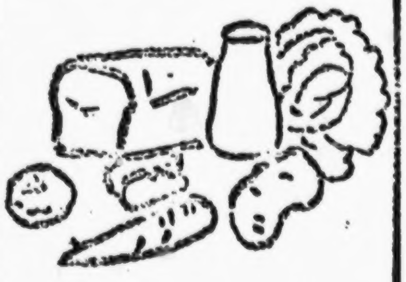
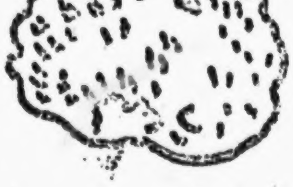
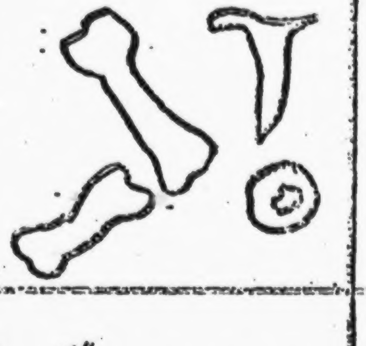
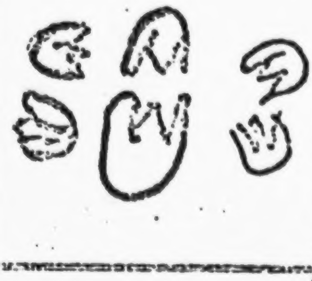
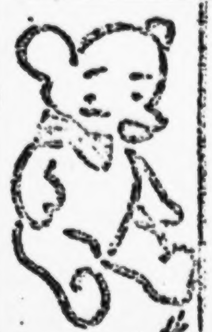
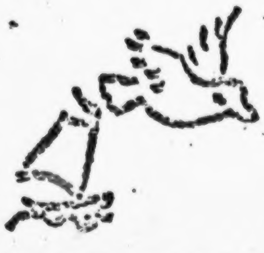
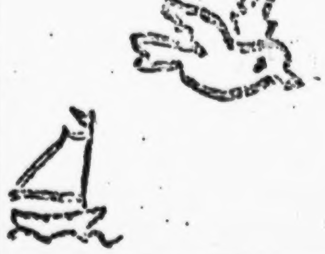
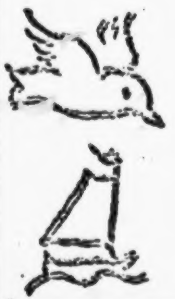
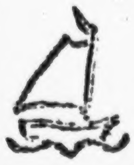
25. FIND THE ROAD (3)
26. LET US ALL BELIEVE TODAY IS WEDNESDAY. (TEACHER SHOW STUDENTS BLOCK MARKED WEDNESDAY. MAKE SURE EACH STUDENT HAS HIS OR HER FINGER IN THIS SPACE.) NOW, PUT AN "X" ON THIS MAKE BELIEF CALENDAR WHERE YESTERDAY WOULD COME.

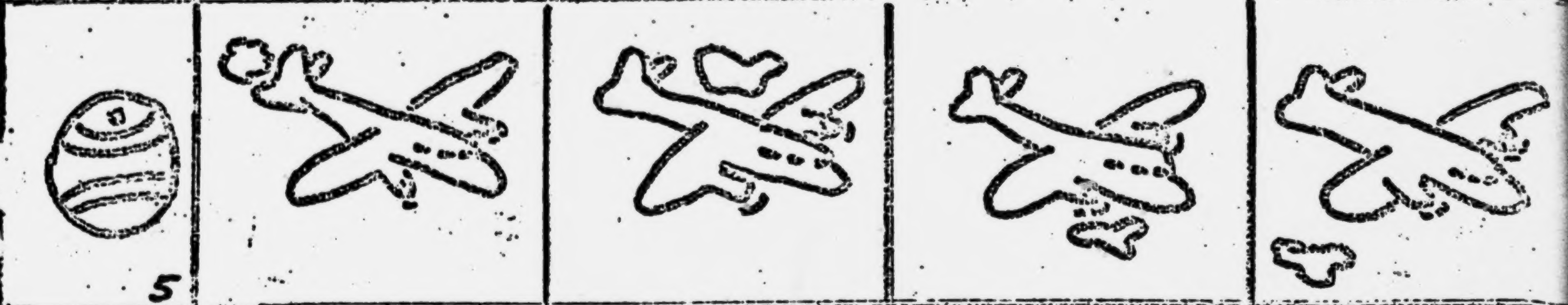
27. PUT AN "X" ON A CHILD WHO WILL GET A COOKIE BEFORE THE CLOWN
28. FIND THE COUNTRY (4)

29. FIND THE FENCE WITH GRASS ALONG IT (3)
30. PUT AN "X" ON THE CHILD WHO WILL GET A COOKIE NEXT

PUPIL'S NAME ______________________ SCHOOL ______________________

GRADE ____________ DATE ______________________

 Example				
 Example				
 1				
 2				
 3				
 4				



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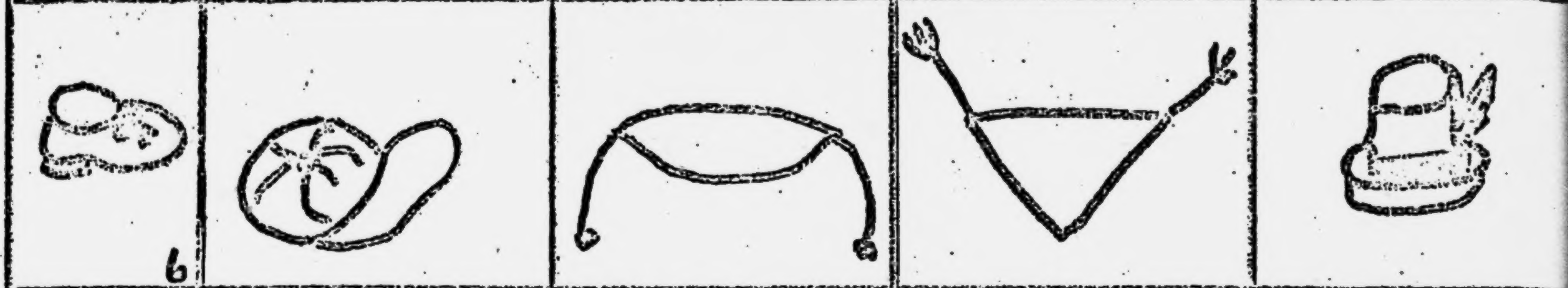

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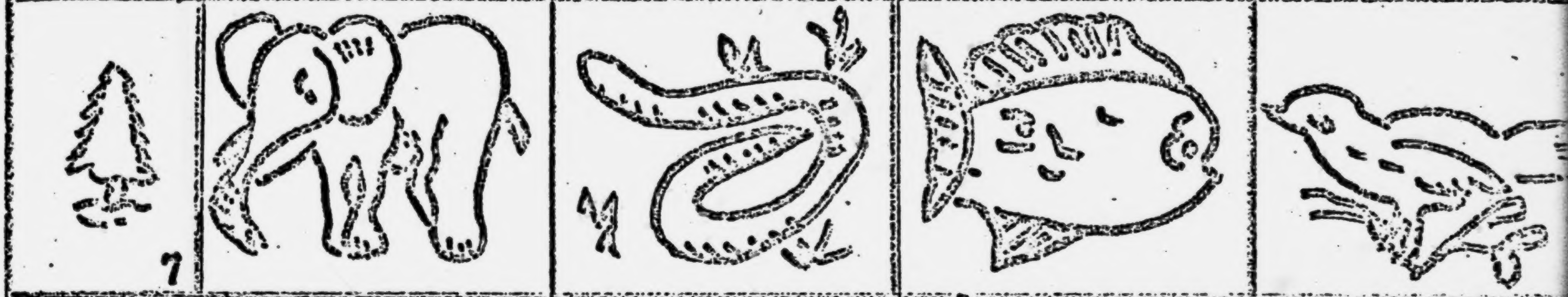

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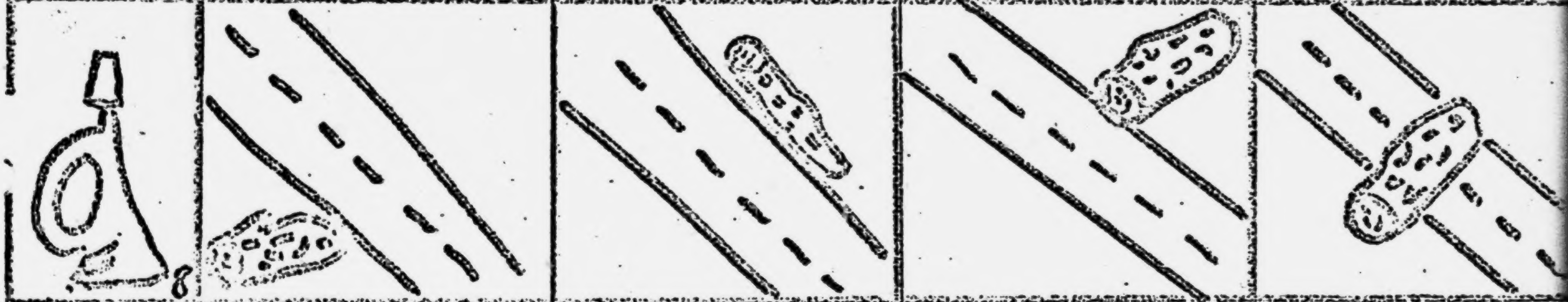

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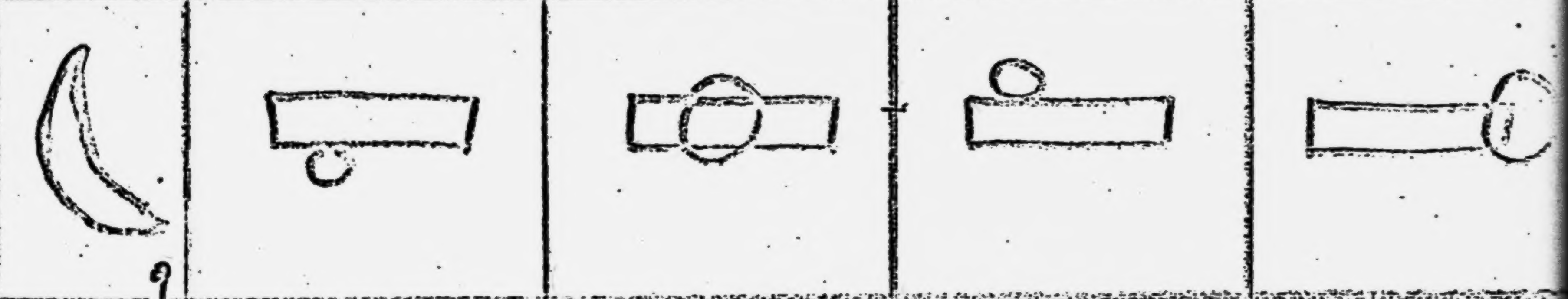

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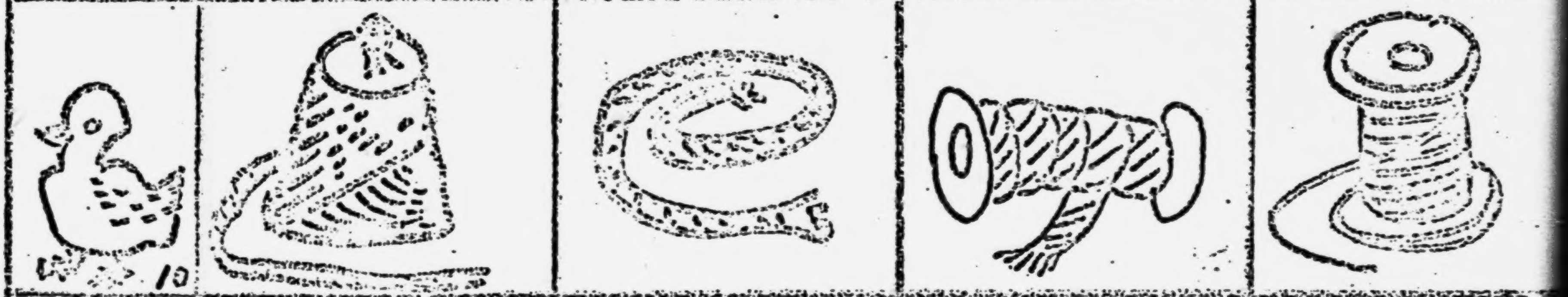

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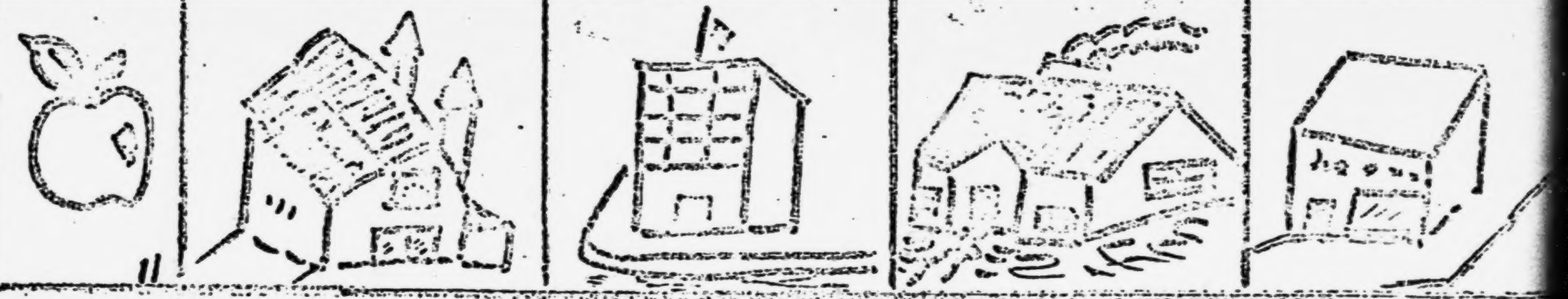

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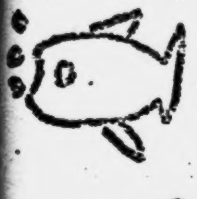
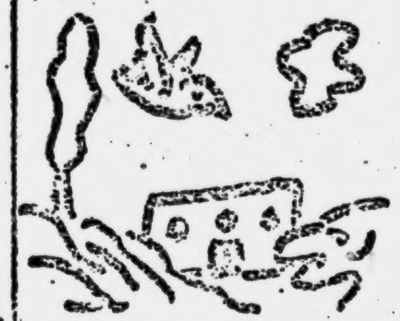
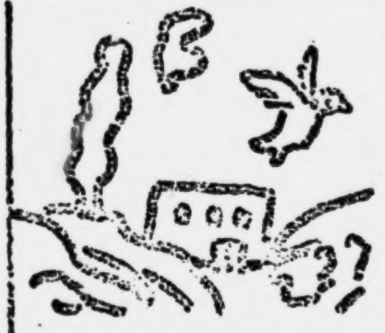
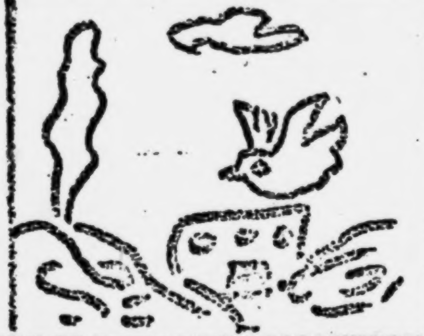
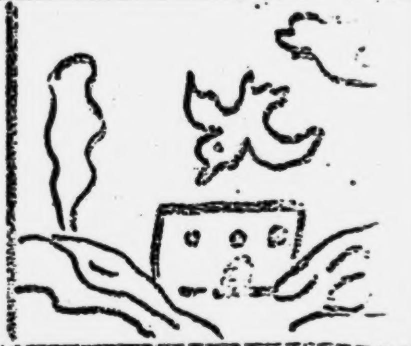
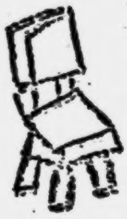
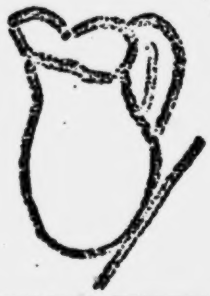
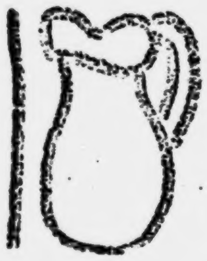
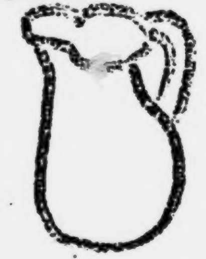
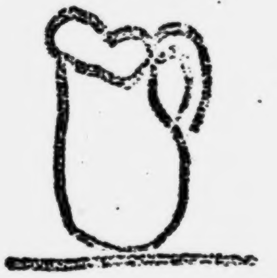
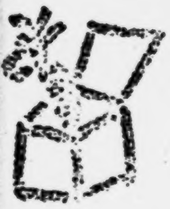
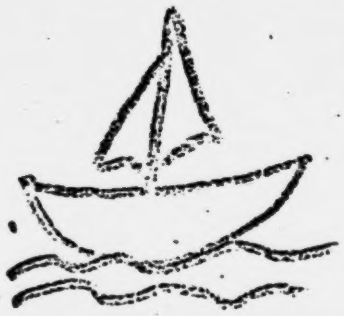
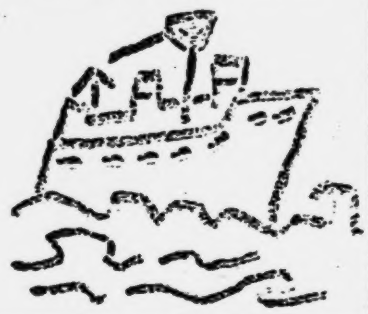
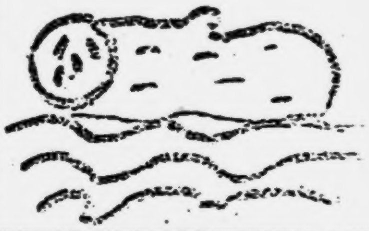
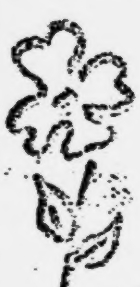
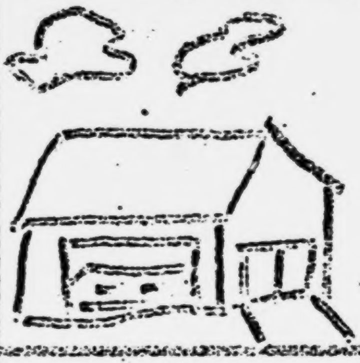
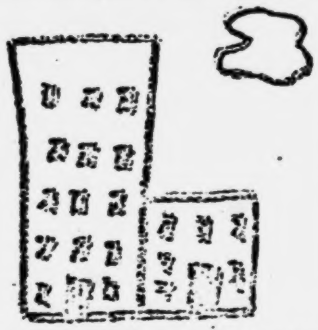
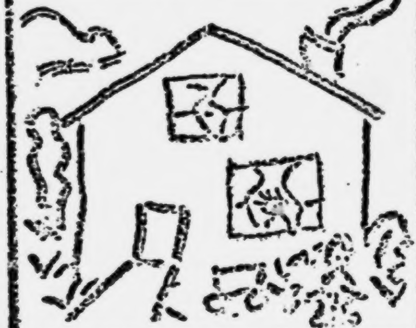
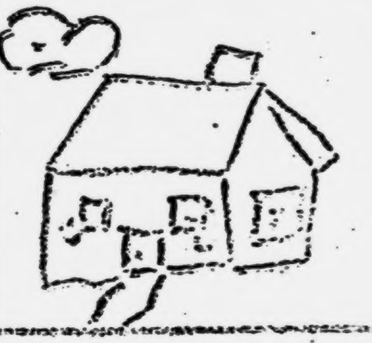
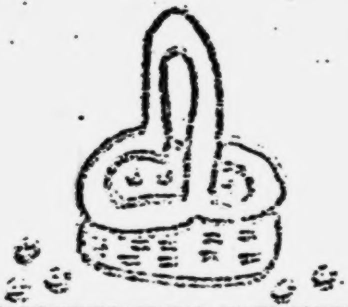
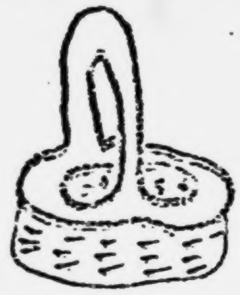
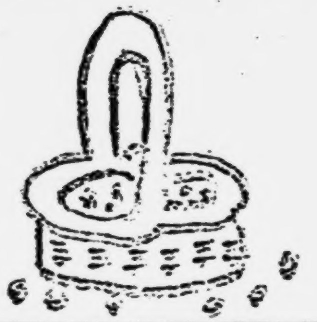
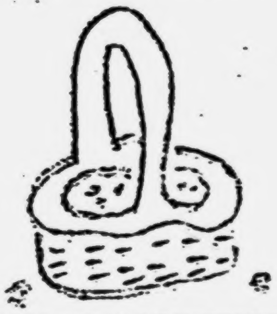
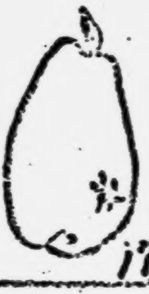
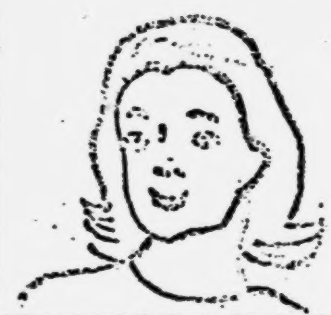
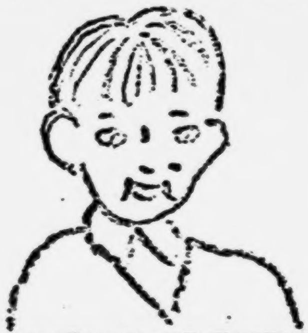
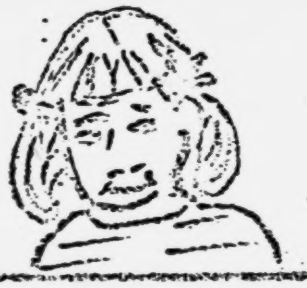
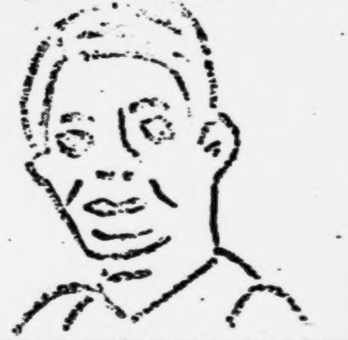
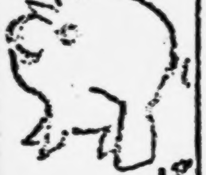
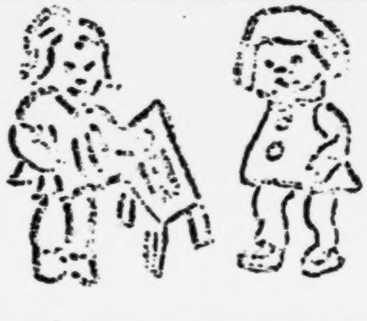
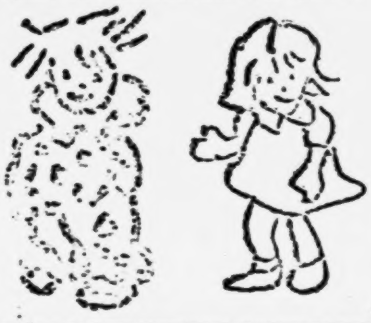
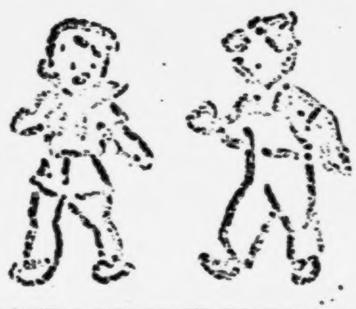
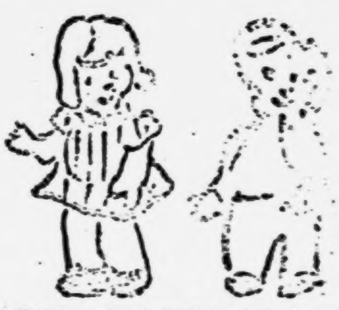
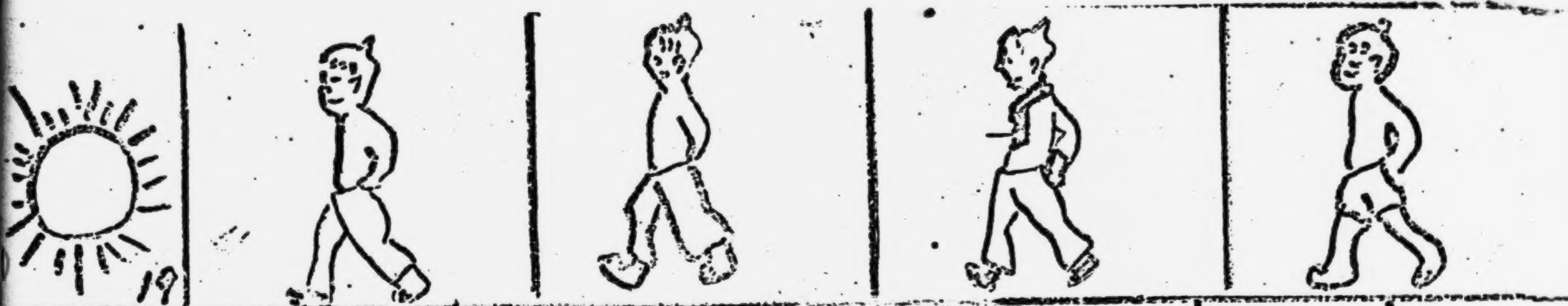
 12				
 13				
 14				
 15				
16				
 17				
 18				



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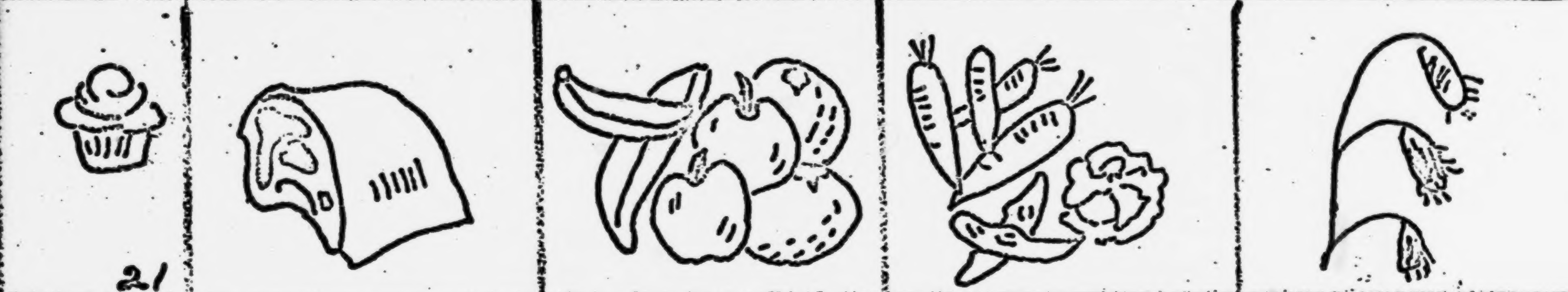

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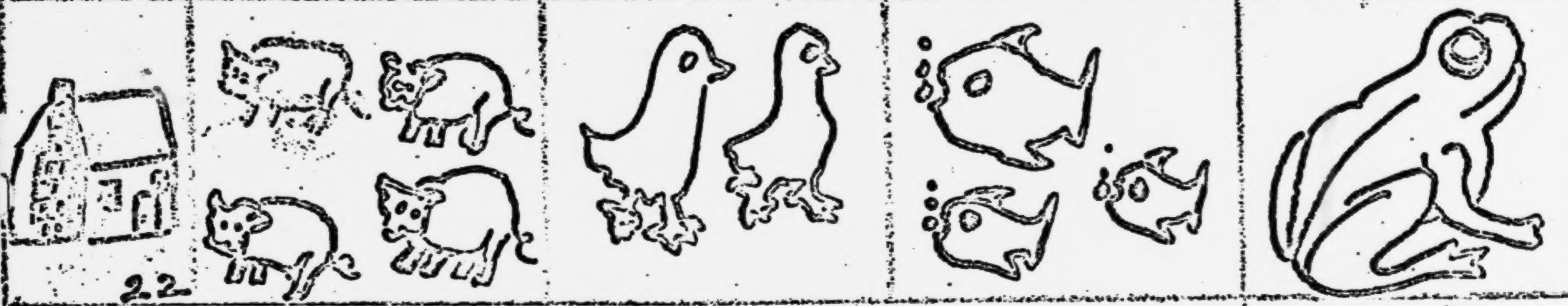

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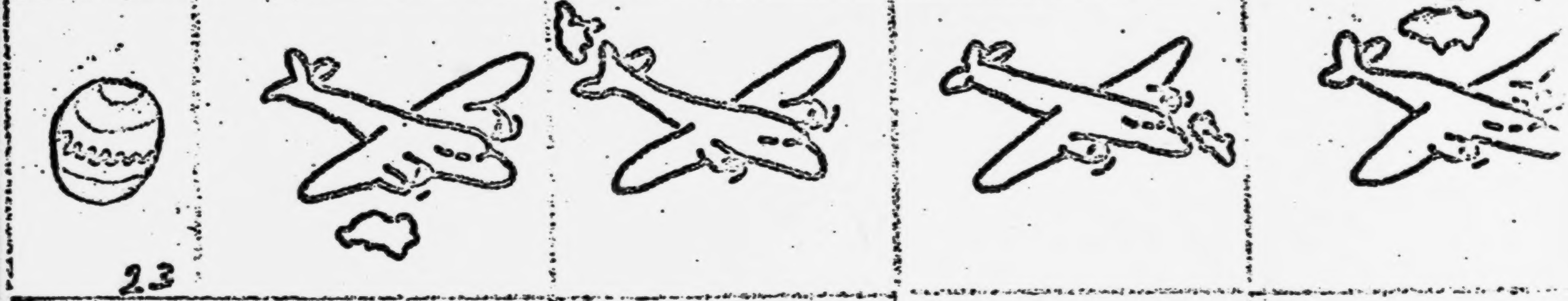

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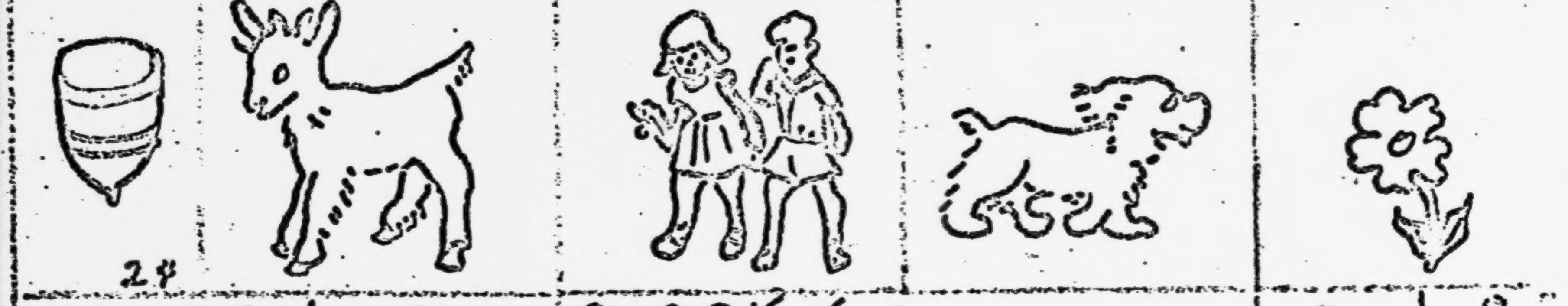

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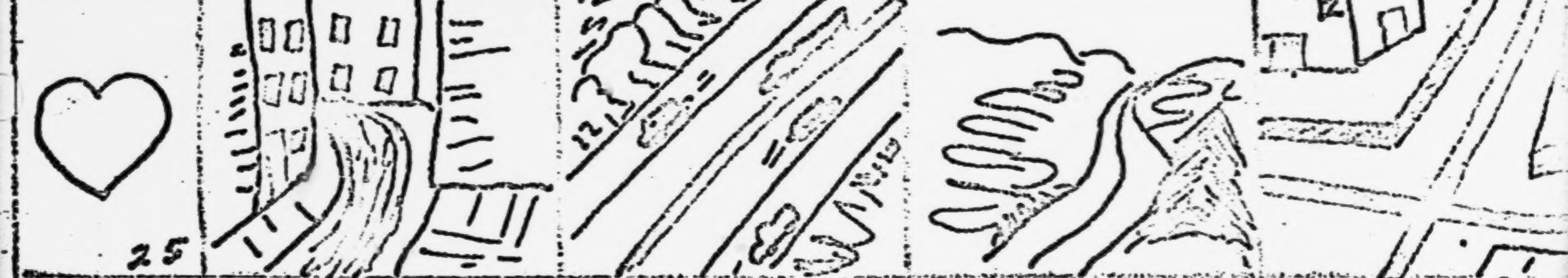

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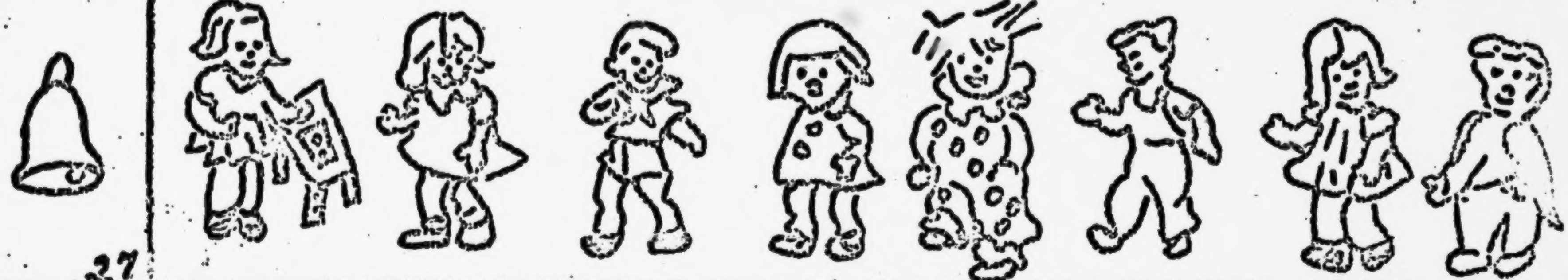

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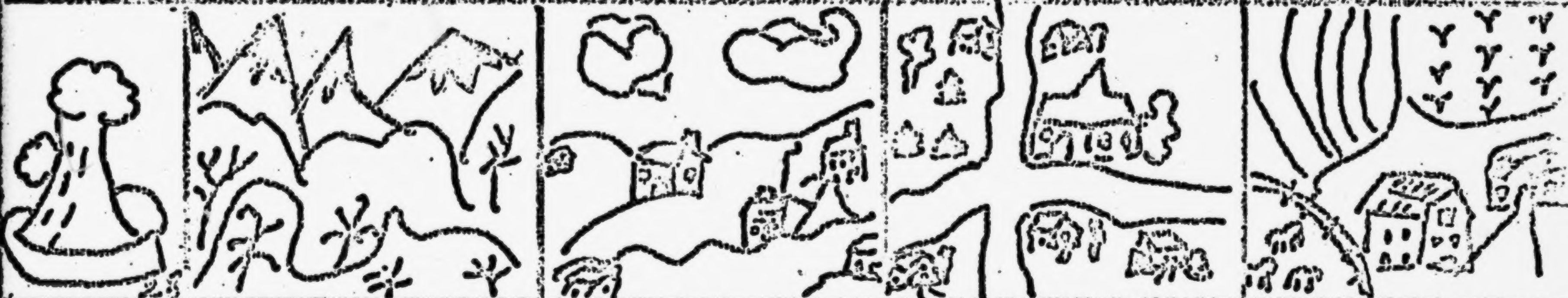

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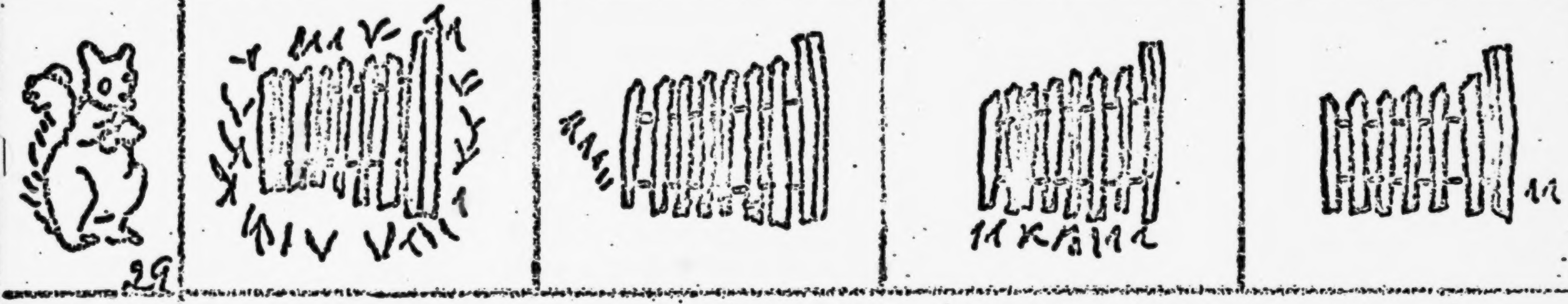

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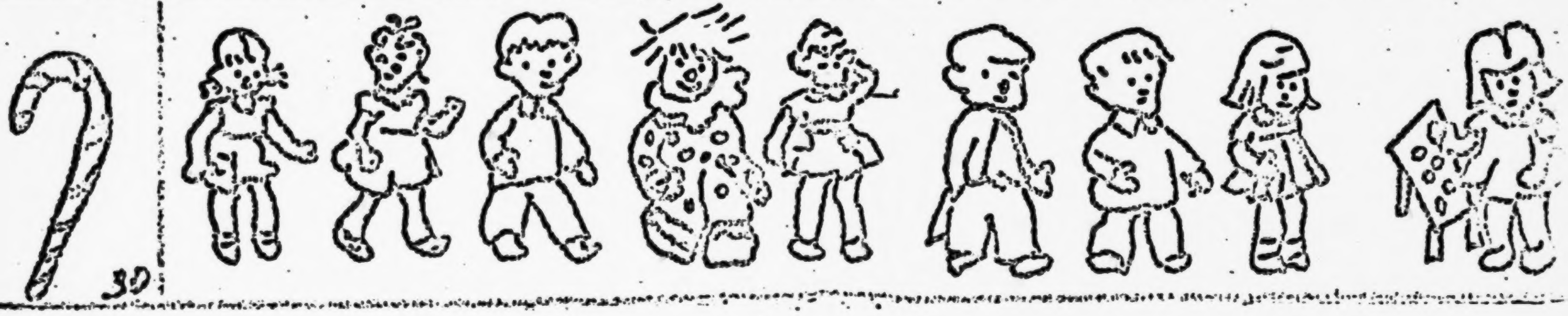

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APPENDIX C

PRELIMINARY INSTRUCTIONS

Boys and girls, I am going to pass out some papers to you. I do not want you to write on them until I tell you to. (Pass out answer sheets.)

Each of you look at the front page. At the bottom of the page you will find the words BOY and GIRL. If you are a boy, circle the word BOY with your pencil. If you are a girl, circle the word GIRL with your pencil (Demonstrate). Do NOT write your name on this paper! (Repeat)

I am going to ask you some questions. If you want to answer yes, you will draw a circle around the word YES. If you want to answer no, you will draw a circle around the word NO (Demonstrate). For each question I will do four things. (Demonstrate the four steps using one of the examples.) First, I will show you a card with a number on it. (Hold up number card.) This will tell you what number we are on. You must be careful to stay with the right number as we go along. Second, I will show you a picture on the screen. Third, I will tell you something about the picture. Last, after I have told you something about the picture, I will ask you the question. All you have to do is circle the answer you want to give. You must answer every question!

As you work do not look around to see what others are doing. I want you to give the answer you feel like giving. You may cover your answers if you like. Are there any questions?

Now let's try the two examples to make sure we know what we are doing.

APPENDIX C

VERBAL PRESENTATIONS ACCOMPANYING TRANSPARENCIES

A. These boys are working. They are trying to earn some money for themselves. Is it important for children to earn their own money?

B. This lady is very tired. She wants to go to bed, but she has lots of work to do. Is getting enough sleep at night important?

1. This picture shows a pupil reading a book. He likes it very much. Is reading books just for fun important?
2. These three children have just gone into the school building. They are walking in the hall. No one else is around so they must be late. Is getting to school on time important?
3. This girl is doing some number problems at home. It must be some school work that she had to take home and do. Is doing school homework important?
4. This girl is talking to her father. They are talking in Spanish. Is being able to speak Spanish well important?
5. This boy is writing a letter to someone. He is writing in English. Is being able to write English well important?
6. This girl is handing some of her clothes to her sister. Her sister is going to wear them. Girls, is sharing clothes with

a sister important? Boys, is sharing clothes with a brother important? You can pretend that they are both the same size. Or you can pretend that one is bigger than the other and that the clothes are too little for the big one.

7. This man has gone to vote in an election. He is going to vote for the governor of the state in a voting machine. Is voting for the governor of the state important?

8. A man parked his car and went into a store. He did not put any money in the parking meter. He has broken a traffic rule. But this rule is not as important as the ones about not running a traffic light and not speeding. Is it OK to break a traffic rule once-in-awhile if it is not too important?

9. This woman is a mother. She has a job working in an office. Is it OK for a mother to have a job somewhere?

10. These boys are mowing the lawn in front of their house. They keep the lawn very nice and clean. Is having a clean, well-kept lawn important?

11. It is morning and this man is going to work. See the lunch pail in his hand? He has a steady job. This means that he is not out of work part of the time. He earns money all of the time. Is it important for a man to have a steady job?

12. This lady's family is very poor. She gets welfare money each month to help support her family. Are welfare payments or welfare money important?

13. This girl has a dog as a pet at home. Is having a dog for a pet important?

14. The girl in this picture is watching a baseball game. Boys and girls, is watching a baseball game important?

15. The little boy in the picture is watching a basketball game. Is watching basketball games important?

16. This family is on vacation. They are looking at something we cannot see. Maybe it is the Statue of Liberty? Each time they have a vacation, they travel to different places to see different things. Is taking travel vacations important?

17. Here are a boy and girl playing tennis. They look like they are having fun. Is playing tennis important?

18. The boy and his family are going to eat supper. This boy has meat to eat at least once every day. Is eating meat at least once each day important?

19. This boy is brushing his teeth. He brushes his teeth at least once every day. Is brushing your teeth at least once a day important?

20. This girl got sick. She didn't feel very good so her mother took her to the doctor. The doctor is checking her. Is going to the doctor when sick important?

21. This boy is taking a bath. He takes a bath at least once a

day. Is taking a bath or a shower at least once a day important?

22. This girl has gone to the dentist to have her teeth checked. She goes to have her teeth checked by the dentist at least once a year. Is going to the dentist at least once a year important?

23. This time we have two pictures. The top picture shows a mother and a father. This mother and father have three children. The bottom picture shows a mother and father that have seven children. Which picture is more important? The top one or the bottom one?

24. The top picture shows a student being friendly to a policeman. The boy thinks the policeman is nice and helpful. The bottom picture shows a boy that was not friendly to the policeman. Maybe he thinks the policeman is not nice and friendly. Which picture do you think is right - the top one or the bottom one?

25. The bottom picture shows a boy emptying the trash into the trash can. This is one of the jobs he does at home. He has other jobs at home that he does each day. He does them all the time. This is his share of the work at home. The top picture shows a boy watching TV. He does not have jobs to do around his house so he just does what he wants. Is it important for children to have regular family jobs at home?

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